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NEWS SUMMARY

FAILURE to fill the post of Director-General of Works upon the impending retirement of Sir Charles Mole is criticised by the Secretary of the Institution of Professional Civil Servants. p. 905

THE PROS AND CONS of erecting a 35-storey hotel in Park Lane have been argued at a public inquiry. p. 905

NEW ITEMS of plant, equipment and materials on view at the Building Exhibition, are reviewed. p. 909

THE NEW SPECIFICATION issued by the NHBRC is critically analysed by an architect. p. 922

FURTHER DETAILS of how Government economies will affect the housing programme are reported. p. 927

THE SLIDING SCALE AGREEMENT has been brought into line with the new retail prices index. p. 931

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CUTS IN LOCAL AUTHORITY BUILDING

LAST week the Minister of Housing and Local Government sent his long awaited circular to local authorities on cuts in capital investment. The Government had already declared its intention to stabilise capital investment at its present level in money terms during the next two financial years, 1958-59 and 1959-60. The purpose of the circular is to explain how this policy will affect the local government services for which the Minister is responsible. Of these services the most important is housing, and expenditure on local authority housing over the country as a whole is to be reduced so that in 1959-60 it will not exceed 80 per cent. of the current level. The circular does not fix any total figure for other local government services such as water, sewerage and sewage disposal; but all these have been subject to severe restrictions for the past eighteen months, and the administration of these services is to continue on the same basis.

The restriction of capital investment by public and local authorities to the present level of expenditure will almost certainly result in substantial cuts in the amount of actual building. This result can only be averted in two ways. There must either be a sudden stop to the upward trend in wages and prices—which unfortunately seems most unlikely—or productivity must increase at least as rapidly as the rise in costs. Encouraging as has been the increase in building productivity in the last few years, the industry can hardly be expected to keep pace with the increase in costs. In any event, it could not achieve the further 20 per cent. increase that would be necessary to offset the reduction in expenditure on local authority housing. Severe cuts in housing are therefore inevitable, and some reduction in other local government work may be expected.

How are these cuts to be made? In the field of private building and investment the Government is relying almost entirely on the 7 per cent. Bank Rate and other forms of credit squeeze. Although high interest rates will clearly cause local authorities to think twice before embarking on capital expenditure, the Government is apparently not prepared to rely solely on this method in the case of public work. It seems to be its intention to introduce an unofficial system of licensing for local authority building. Local authorities are urged, both in the case of housing and other services, to consult with the Ministry before committing themselves to expenditure. In reserve, the Ministry has the power to refuse loan sanction, and there is a scarcely veiled threat to use this if need be.

Beyond this, the circular does not give a great deal of guidance. The Ministry make the most of the improvement in the housing situation in the country at large since 1951, and suggest that some slowing down was to be expected in many districts either because the most urgent needs have been met or because of the shortage of sites. Even so, almost all authorities will have to reduce the number of houses to be put into tender in 1958. There is a hint of priority for slum clearance, reception of overspill, provision for old people and rehousing of families now in requisitioned camps. Conversion of existing properties is commended as an alternative to building new houses. Finally, some authorities might solve their problems by stopping housebuilding altogether.

The weakness of the Government's approach is two-fold. By attempting to relate the amount of building which is to be permitted to current expenditure, it has adopted a standard which is bound to fluctuate with changes in costs and productivity. Moreover, individual authorities will not know what is expected of them. Quite rightly, the Ministry do not intend a flat rate reduction by each authority but the present circular is far too vague. If a local authority is to avoid the risk of cutting down more than is necessary, its safest course will be to submit as many schemes as it wants, and leave Whitehall to say which can go ahead. That may inconvenience the Ministry, but it will be their own fault for trying 'to pass the buck' to the local authorities.

A NATIONAL STANDARD FOR SPECULATIVE HOUSE BUILDING

THE National House-Builders Registration Council—now 21 years of age—at a Press Conference on November 5, presented to the country the fifth edition of its General Specification of Constructional Standards for Houses and Flats (not exceeding two-storeys in height), which is reviewed elsewhere in this issue. The Council, representing some 20 organisations—trade unions, building societies, etc.—is charged with the praiseworthy task of raising the standard of speculative house building, and is endeavouring to accomplish this by encouraging the house-purchasing public—whom they calculate to be some 150,000 a year—to demand houses built to a standard and covered by a certificate issued to the builder by the Council.

The methods used to obtain this end are :

1. By preparing and keeping up to date a general specification of constructional standards, compliance with which by builders the Council considers will ensure that houses built without architects' supervision will be thoroughly well built. (This is obviously so, providing the standards are sufficiently high and the supervision adequate.)
2. Maintaining a register of builders who agree in the houses they sell
   (*a*) to comply with the Specification of Constructional Standards;
   (*b*) to permit the Council's technical staff and advisers to make periodic inspections of the works in progress to ensure compliance with (*a*), these inspections normally being made at three-weekly intervals, with an average of six inspections per house;
   (*c*) to offer a two-year maintenance period in which defects due to non-compliance with the constructional standards are to be rectified by the builder at his own cost.
3. By arranging to indemnify any aggrieved person (presumably a purchaser) against loss suffered if a building does not conform with the presented standards.

The mechanics of the Council's scheme are that to be admitted and retained on the Register, a builder pays an entrance and first year fee of three guineas, and afterwards a yearly retention fee of one guinea. For each house inspected he pays a fee of three guineas. After issue to him of the certificate of compliance, the builder hands it to the purchaser, and enters into a contract to cover the two years' maintenance, etc. Since its inception the Council have issued some 68,000 certificates including 15,000 given before the war, and many more houses, it seems, have been inspected for which certificates have not been issued.

There is no doubt the scheme is being adopted in the speculative house-building world, as the Council state the number of new houses inspected by them has risen by one-eighth in the last five years. An interesting part is that 95 per cent. of the houses submitted for certificates are designed (but not supervised) by architects.

Any method or system which raises the standard of speculative house building (which is deplorably low in certain parts of the country) or, in point of fact, of any building or industry, is desirable, and the National House-Builders Registration Council's scheme would seem to be having this effect. But the pertinent factor is the standard of the Standard.

The weakness of the system would seem to be that supervision by visits at intervals of three weeks must necessarily be superficial and vary considerably from supervision to supervision—and what a lot can be built and covered up in three weeks! It seems it would also be very difficult to enforce a two years' maintenance period and ask a builder to placate an aggrieved person, after a certificate of compliance with the Specification of Standards had been issued. The Council claim, however, that only five cases have gone to arbitration.

Control of types and classes of building by a Specification of Standards or a Code of Practice opens up great possibilities of improving the technical education of builders and operatives in new methods of construction, new and different uses of materials, new principles of heat and sound insulation, etc. Unfortunately in the fifth revised edition of the Specification of Constructional Standards the Committee has not, perhaps because of its constitution, taken advantage of this possibility, neither, apart from passing references, has it taken advantage of the great accumulation of knowledge, experience, etc., contained in the hundred or so Codes of Practice relating to building, and the nearly 300 Standard Specifications of building materials, prepared by the Committees sponsored by the British Standards Institution, drawn from all branches of the professions and trades connected with building, or the very detailed requirements of the 1953 Model By-laws, the London Building Acts and By-laws, and various Government publications.

A suggestion is made in the course of this Specification that a full Code of Practice for Speculative House Building be prepared for administration by the National House-Builders Registration Council. The effect of such a code on registrations with the National House-Builders Registration Council is anyone's guess.

Notes of the Week

Management of Building

THERE can be no doubt that the series of four meetings, arranged by the LCC Brixton School of Building and held at the Building Centre, to discuss the subject 'The Management of Building Projects' was of value to those who attended and the much wider circle who have read the reports in our columns. The meetings enabled the views of first-class representatives of the architectural, quantity surveying and consultant professions — as well as those of the building contractor and that not unimportant person, the client—regarding the problems of working together on the planning and progress of a contract to be aired in public and discussed by people of varying experience in these matters.

There was little real difference of opinion as far as general principles were concerned; divergencies arose chiefly on matters of detail. As the meetings proceeded, it became increasingly clear that good teamwork is more than ever essential on modern building projects, with their complexity of techniques, frustrations due to post-war conditions and the use of comparatively novel materials.

It also emerged that the architect, while giving full rein to the other members of the team, must remain its captain, without, so to speak, being a dictator. The importance of every profession concerned, together with the contractor, being provided with as much information as possible at all stages of the job, was constantly stressed.

The attendances at each meeting, however, were somewhat disappointing in numbers, although all the professions concerned were represented and were adequately vocal. Was the early starting time of 5 p.m. too difficult for many people?

SWIA Journal

AN uncommonly well-produced 'house' magazine is the 'Journal' of the South Wales Institute of Architects. The October number has several features of more than local interest, including some memoirs, under the title 'Looking Backward,' by Dr. T. Alwyn Lloyd; some frank but friendly comments on architect—quantity surveyor relations, under the heading 'As Others See Us,' by Mr. G. N. Row, FRICS; a thoughtful contribution, entitled 'Cross Roads,' by Mr. Wallace Sweet, on the problems of contemporary architectural practice; an interesting article on the Folk Museum movement, by Mr. J. B. Hilling; a scholarly article, entitled 'Piazza' on the Roman forums at Rome, Pompeii and Silchester, by Mr. Chessor L. Matthew (who, by the way, after many years of valuable service at the Welsh School and the SWIA, has now taken up the appointment of Head of the Dundee School of Architecture), and other features of interest, including a fine photographic view of the interior of Llandaff Cathedral (recently restored by Mr. George Pace, FSA, FRIBA), with its sculptured feature by Sir Jacob Epstein.

'Their Name Liveth'

COINCIDENTLY with the intended unveiling on November 16, by Sir Kenneth Anderson, KCB, MC, of the Medjez-El-Bab war memorial (the ceremony was postponed owing to floods), a new book, the second part of Volume III in the series entitled 'Their Name Liveth,' containing selected photographs of war cemeteries in France, Tunisia, Sicily and Libya, has been issued by the Imperial War Graves Commission. All the photographs are beautifully reproduced, most of the views showing features of architectural interest. The book, which has an introduction by General Sir John Crocker, GCB, KBE, DSO, MC, together with notes on the cemeteries and memorials shown, is obtainable from Wooburn House, Wooburn Green, High Wycombe, Bucks, price 5s., post free.

Foremanship Studies

THE current (fourth) report of the National Advisory Committee for the training of General Foremen in the Building Industry (now issued from 82, New Cavendish-street, W1, price 2s.) is a model of what a report should be; it records the work done, it gives concisely the information which foremen and those interested in training them require, above all it gives a lead which builders in their own as well as the national interest will do well to follow.

The Advisory Committee has been busy in the two years covered by the report in building up a national network of colleges offering and prepared to offer foremanship courses, and 28 counties apart from three cities in Scotland and one in Wales now provide training to approved syllabuses, though not all have yet been able to lay plans for courses which lead to the CGLI examinations. But progress to this end continues to be made.

☆ ☆ ☆

OF GREATER CONCERN is the point made in the excellent foreword that, as the complexities of the building process increase, it will become far more difficult to find suitable men to discharge the exacting responsibilities of site supervision. That the industry must find and bring forward for promotion and training a sufficiency of such men should go without saying: in building, it is the general foreman who occupies the key position in marshalling, organising and controlling the resources of men, materials and machine power. Yet, reading between the lines of this very readable report, builders are not, by and large, sufficiently aware of their individual and collective responsibility for finding and bringing along foreman-material. And of those who are on the look-out for good men, too many are not as yet convinced of the need for specialised training in their development.

This is something which every master builder needs to think about in his own interests; and here the report, which is the subject of these comments, assuredly can help him.

RIBA Membership

THE RIBA Kalendar for 1957-58, just published (66, Portland-place, London, W1, price 10s.), shows a continuing growth in Institute membership, the total now being 24,276, compared with 23,711 last year, an increase of 565. Details are as follows, the figures for last year being in parentheses: Fellows 2,192 (2,237); Associates 13,342 (12,977); Licentiates, 2,382 (2,501); Retired Fellows 230 (201); Retired Members Society of Architects 2 (2); Retired Associates 175 (148); Retired Licentiates 186 (146); Students 5,548 (5,279); Subscribers 5 (6); Hon. Fellows 29 (22); Hon. Associates 85 (87); Hon. Corresponding Members 100 (105).

It will be seen that the growth of the membership is in the Associate and the Student classes, Fellows and Licentiates showing a slight decline. The Licentiate class, of course, will ultimately fade out, but why should the Fellowship remain almost stationary? For several years past its members have fluctuated at a little over the 2,000 mark. Has the heavier subscription something to do with it, or is it that the Associate prefers to remain in the class that is 100 per cent. examined?

THE QUEEN AT THE BUILDING EXHIBITION.—HM the Queen visited the Building Exhibition on Thursday afternoon, November 14. Her Majesty is pictured on the stand of the National Federation of Building Trades Employers; she is speaking to the President, Mr. L. A. Walden. Others in the photograph (left to right) are Mr. K. C. S. Foster (past President LMBA), Mr. Kenneth Cross, PRIBA, and Mr. Hugh Molson, Minister of Works

'OLYMPIAN GLADES'

Mr. George Grenfell Baines, ARIBA, has been commissioned by 'The Builder' to visit the Building Exhibition and to write on some of the Stands that have taken his attention. His comments, under the title of 'Olympian Glades,' will appear next week, and will be read by all exhibitors with interest.

In the present issue articles are contributed by Mr. Gordon Wagstaff and by Mr. James Kennedy, ARIBA, on 'What's New at Olympia?' Their comments begin on page 909.

Counter-attack

THE CORRESPONDENCE on 'fast building' in *The Financial Times* which Mr. Peter Trench started after the attack by Sir Alfred Bossom on the building industry's 'muzzle-loading methods' has been brought to an end by a letter from Mr. D. C. Burgess, a former President of the LMBA, who sums up the position very fairly. It is well that it should end, for it is surely unseemly that builders and architects should be airing their grievances in the public Press instead of settling them in private discussion.

Let us be frank. Many of Sir Alfred Bossom's original criticisms were ill-conceived, and when Mr. Trench challenged him on specific points he most certainly dodged the issue. The President of the LMBA, himself not the least efficient of the builders of today also joined in making protest.

In his last letter Sir Alfred significantly changed his ground, and Mr. Burgess was right in calling attention to the fact. Briefly, if architects could really persuade their clients, for its rests primarily with them, to make up their minds once and for all on what sort of building they want —and then not change them—and if they, in turn, would give the prospective builder all the plans, specifications, and the rest of it before they even see the site, all would be well. We might even get firm price tenders—and contracts!

CORRESPONDENCE

A Society of Local Government Architects

To the Editor of *The Builder*

SIR, — The question recently asked in the technical Press as to whether or not a Society of Architectural Assistants should be formed could, I am sure, be answered by a great number of architects—with a most emphatic 'No.'

Among the reasons that might be given will appear the following:

(a) there are already far too many societies in existence;

(b) all the things the proposers of such a society put forward to justify its formation are either covered by existing societies or can be readily achieved without a society;

(c) the fact that it would have both qualified and unqualified members would inevitably lead to internal friction; and

(d) it might easily be taken over by a 'political group' and developed for its nuisance value, as has occurred before.

What is really wanted is the formation of an association to deal with those aspects of the profession that the constitution of the RIBA precludes it from dealing with, i.e., negotiation for salaries, etc., which are daily increasing in numbers and importance. If this kind of organisation, parallel to the British Medical Association, were formed, it would leave the RIBA to function as a learned society, as was originally intended.

A new association such as this must be formed *by architects and for architects only*. It must collaborate with the RIBA but not be run by it. It must have no political tie-up whatsoever.

If this could be satisfactorily achieved, nearly all the other architectural and pseudo - architectural societies and associations would quickly go out of existence, and, in addition, architects in public offices would not find it necessary to subscribe to the membership of societies where they are outnumbered by administrators, technicians, typists, clerks and others.

The formation of a British Architectural Association will prove a bitter pill to swallow for many, but I feel that it is the only medicine that will cure the disease of disunity that the profession is now suffering from.

SIDNEY LOWETH [FSA, FRIBA].

15, Woburn-square, WC1.

To the Editor of *The Builder*

SIR, — The correspondence which has followed the publication of my letter about the formation of a Society of Local Government Architects has been most helpful and constructive. We have received a large number of letters at the Royal Institute supporting this proposal, and read those that have been published in the technical Press.

I should, on behalf of my committee, like to thank the editors of the papers for the help and publicity they have given to this matter.

RICHARD H. SHEPPARD [FRIBA].

66, Portland-place, W1.

Appointment of Subcontractors

To the Editor of *The Builder*

SIR,—The letter from R. Gee, of Bristol, in your issue of November 8 seems to reflect some little prejudice. It is difficult to follow the reasoning that subcontractors are more efficient if appointed by the main contractors than if they are nominated by the architects.

The statement that most nominated subcontractors dictate to the main contractor when they should commence work is ludicrous; the fact is that they are often expected, because the building contract is behind schedule, to commence before conditions are suitable and to take abnormal risks in doing so.

Subcontractors will be very interested in one point mentioned in connection with the Quarrendon School—namely, that the final account was presented within a day of the completion of the job. So frequently are they informed, when applying for payment, that this is held up because the main contractor has not rendered his final account,

LLOYD'S NEW BUILDING.—The Queen Mother, accompanied by Princess Margaret, opened on November 14 the new building in Lime Street for Lloyd's. Our view shows the Underwriting Room as seen from the gallery. The architect is Mr. Terence Heysham, FRIBA (Sir Edwin Cooper, RA, & Partners), the consulting engineers Oscar Faber & Partners, the quantity surveyor Mr. S. W. Appleyard, FRICS, and the builders John Mowlem & Co., Ltd.

'Poor Hon. Hatfield—at least we've a roof to our heads!'

often many months after completion. Would that more contractors were as efficient in preparing accounts as the builders of Quarrendon School appear to have been!

There is a good deal to be said for direct contracts between the building owner and the specialist subcontractor, with payment made on a direct certificate of the architect. The suggested grading of subcontractors certainly has possibilities, but why limit the issue of merit certificates to subcontractors?

'SPECIALIST SUBCONTRACTOR.'

Firm Price Tenders and the Materials Suppliers

To the Editor of *The Builder*

SIR,—In your issue of October 25 appeared a report on a discussion which took place at the Royal Institution of Chartered Surveyors on the subject of the return to firm price tendering. In that report Mr. L. A. Walden, President of the NFBTE, criticised the action of Building Industry Distributors (BID) in issuing a circular to its members pointing out the dangers inherent in fixed price tendering, and suggesting the action which they should take. In my view this Association would have been lacking in its duty if such advice had not been sent.

I notice that BID is not alone in appreciating the difficulties, and I have seen a statement issued by the Midland Area Council of the National Union of Manufacturers, in which its member firms in the Midlands are advised to refuse to submit tenders under a system of long term contracts which laid down firm price tendering. In its statement, the NUM make the same point as BID:

'It is impossible for manufacturers to tender with any degree of safety so long as they cannot be guaranteed increases against the price of their own basic materials and any further increases in wages which might take place before the completion of a contract.'

T. M. SWAIN, President,
Building Industry Distributors.
52-54, High Holborn, WC1.

35-STOREY HOTEL

Evidence at Public Inquiry

A PUBLIC inquiry into the proposal to build a 35-storey hotel in Park-lane, W, at a cost of £3,500,000 was opened in London on November 6. The inquiry, which was ordered by the Minister of Housing and Local Government, was held by Mr. S. J. Docking. The applicants were New City Properties Ltd., controlled by Mr. Charles Clore, and Hilton Hotels International, Inc., a United States company.

MR. MILNER HOLLAND, QC, for the applicants, said that the site on which the hotel would be built was at the southern end of Park-lane, bounded by Hertford-street and Pitt's Head Mews. The proposal was to build a luxury hotel with 700 bedrooms. Provision was made for car parking space for at least 260 cars. The total height of the hotel would be 378 ft.

Mr. Holland said that taking the gloomiest view it was estimated that such an hotel would attract something over $13m. a year and his clients believed that a more correct figure would be $36m.

At the resumption of the inquiry, on November 7, a witness for the sponsors, MR. L. C. GALE, a member of the Town Planning Institute said he agreed with those who thought that Hyde Park should not be 'boxed in,' but thought that this development would alter the skyline but would not necessarily mar the view.

MR. J. S. DANIELS, for the LCC, the principal objectors, said the LCC were not saying that the site was unsuitable. They had no objection to the use of the site for an hotel, but this project simply did not begin to make out a case for itself. The root of their objection was the height of the tower. A building of such prominence was without rhyme or reason. No civic or visual reason existed why the skyline should be broken into at this point. There was, in fact, every reason why it should not be broken up.

The LCC suggested that if the applicants could not make do with fewer than 700 bedrooms they must either enlarge the site or look for one elsewhere.

On November 11 evidence was given by the British Hotels and Restaurants Association. MR. FREDERICK LAWTON, QC, explained on the association's behalf that their purpose was simply to show that, according to the experience of London hoteliers, some of the estimates, if not impossible, were at least 'somewhat over-optimistic.'

MR. MILNER HOLLAND, for the applicants, said he thought it a proper part of the application that the need for additional hotels in London and the need to attract dollar tourists should be pointed out. The view that there had never been sky-scrapers in London so there never should be was just sentimentality.

If the plan were approved in principle it was likely that the applicants would hold a public competition to find the best design.

The inquiry ended and the Minister's decision will be announced at a later date.

Another hotel rising to more than 300 feet is planned near Hyde Park. An application for planning permission has been made to the LCC for the erection on the site of Nos. 75 to 89 Lancaster-gate, of a hotel of 30 storeys rising to about 305 feet.

The application is made on behalf of Mr. Joscelyn Edgar Jackson, who controls a group of hotels in the area. Development is to be carried out in conjunction with a property company of which the chairman is Brigadier E. W. C. Flavell, and the architects are Mersrs. Raglan Squire and Partners.

As in the case of the Park Lane hotel proposal, the matter is the subject of a public inquiry by the Minister which began in Paddington town hall on Wednesday.

DIRECTOR GENERAL OF WORKS

'Dropping the Pilot'

COMMENTING on the announcement last week by the Ministry of Works (reported in our last issue) that not only is Sir Charles Mole, the Director General of Works, to retire at the end of the year, but that the Department has no intention for the time being, at any rate, of replacing him (it will, instead of a professional Director General, appoint an administrator as general manager). Mr. Stanley Mayne, general secretary of the Institution of Professional Civil Servants, states:

'This is an astounding decision. In an age of increasing technical complexity; in a Department which is probably the biggest organisation in the world engaged in building construction and maintenance, this great Department no longer needs to be led by a professional officer.

'The dice are heavily loaded against the professional officer. The Ministry of Works, with a responsibility which is primarily professional in character, has an over-all staffing of 60 per cent. clerical and administrative officers and only 40 per cent. professional and technical officers. Now it is to be shorn of its professional head.

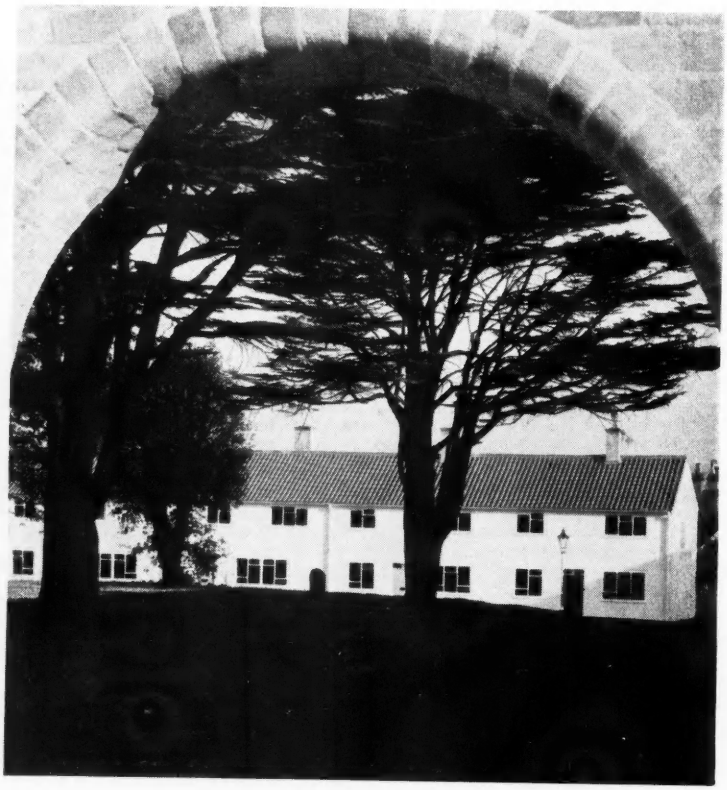
'When the post of Director General of Works in the Ministry was advertised to the world, the salary offered was £4,500 a year. It is not surprising that the applicants to fill this post were of such a quality that the Civil Service Commission decided that it could not make an appointment. This is a measure of the under-payment of the professional Civil Service. No organisation of size outside of the Civil Service would think of paying so low a salary as £4,500 for a post of this weight and responsibility.

'The Institution of Professional Civil Servants has asked the Minister of Works to receive a deputation. The Institution finds it difficult to believe that the Government really intends to maintain the decision not to appoint a professional officer as Director General of Works. As the Government's first staffing decision following on the launching of the sputnik, the decision is remarkable. Everywhere else the Russian achievement has been hailed as an indication that more and more emphasis must be placed upon technology and technicians. In Government service, the decision is in the opposite direction. Outside the Civil Service in industry and commerce the emphasis is on the increasing appointment of technically qualified officers to posts of management. The efficiency of the Ministry of Works requires the appointment of a professional head. . . .

LAMMAS GREEN HOUSING ESTATE,

Sydenham Hill,

for the Corporation of London



Block Four from community hall

Architect :
DONALD H. McMORRAN, ARA, FSA, FRIBA (Farquharson & McMorran)

Assistant in charge : PETER R. NUTTALL

Quantity Surveyors : E. C. PINKS & Partners

Clerk of Works : H. E. CAMPBELL, MICW, ARSH, AISE

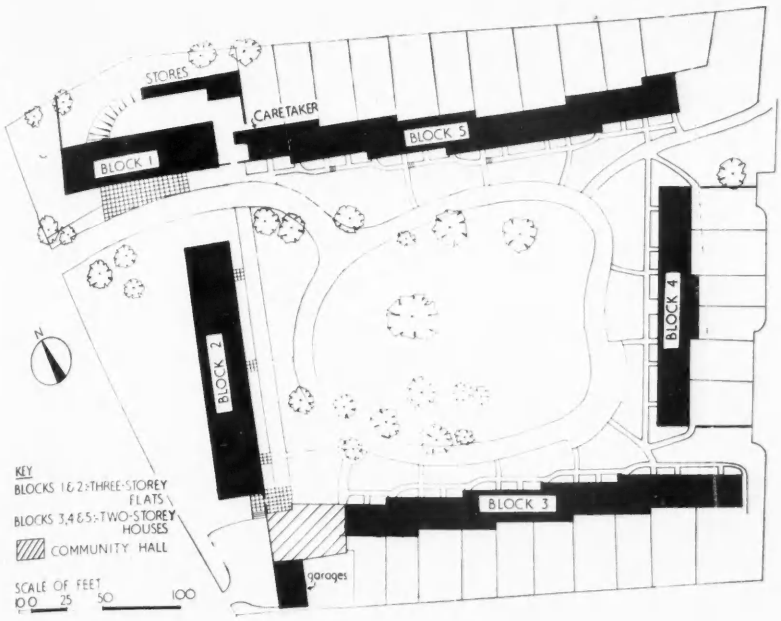
Builder : M. HOWARD (Mitcham), Ltd.

THIS estate includes 27 houses and 30 flats grouped around a small green on the southern slope of Sydenham Hill in the Borough of Lewisham. It occupies land, formerly belonging to the Bridge House Estates Committee, on which stood three large houses, only one of which was still occupied after the late war. The area of the site is 3½ acres.

In planning the development of the land for housing purposes it was decided that the larger family dwellings should be two-storey houses, each with its own back garden, and that the blocks of flats, containing the smaller dwellings, should not exceed three storeys in height. The architect was instructed to arrange the buildings so as to leave an open space to be maintained by the Corporation for the common benefit, and to preserve the fine trees with which the site was furnished. It was also decided to provide a small 'village hall' and a few lock-up garages. The town-planning regulations would have allowed 70 dwellings to be put on the land, but it was found that not more than 57 could be provided without some sacrifice of amenity. The lower density was deliberately chosen so as to establish conditions under which a community with its own life and identity might be able to grow and flourish. It is to this choice that the estate owes the rural character.

Standing on the higher part of the site, and forming the frontage of the estate to the main road, are the two blocks of flats. These are built of hand-made Essex facing bricks, with white painted windows and red tiled roofs. Between these blocks the estate road leads downhill to the central green, around which the houses are grouped. In one corner, beyond a group of cedars, is the public hall, seating about 80 people.

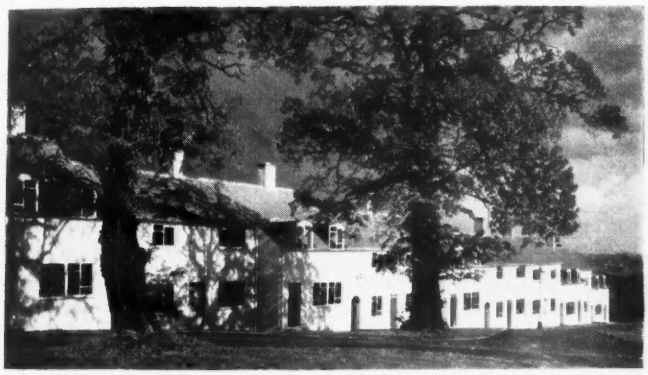
The houses have three bedrooms each, with living-rooms and either dining-room and kitchens or dining-kitchens. The flats are of two types with either one or two bedrooms each. There are two communal laundry rooms, and outside stores for bicycles and perambulators. Each dwelling has an open-fire grate with back boiler. The scheme was opened by the Lord Mayor on November 1.

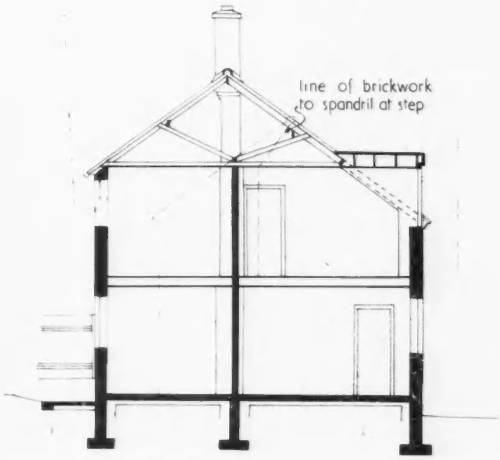


BLOCK PLAN

Lammas Green Estate, Sydenham Hill

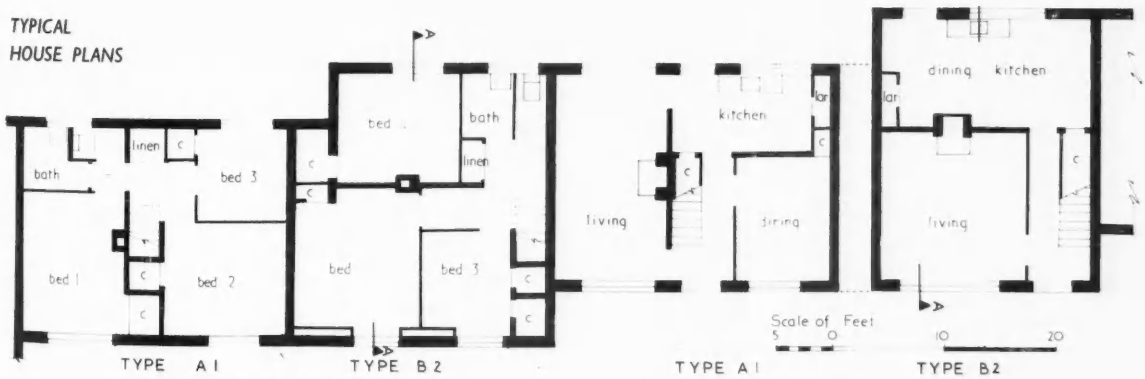
Block Five





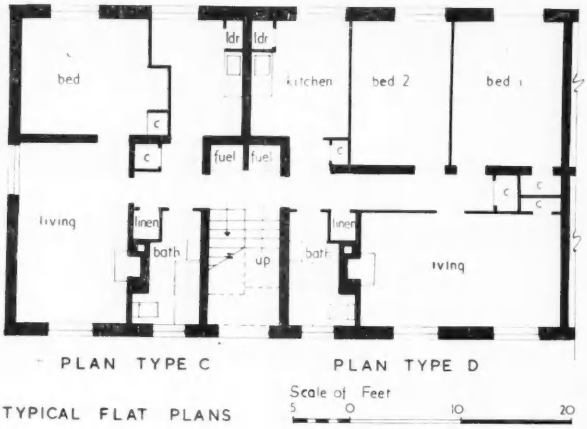
SECTION A-A

TYPICAL HOUSE PLANS

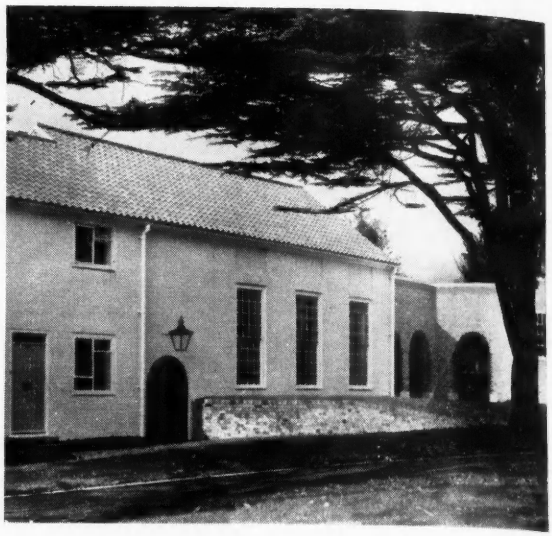


TYPE A1 TYPE B2
FIRST FLOOR PLAN

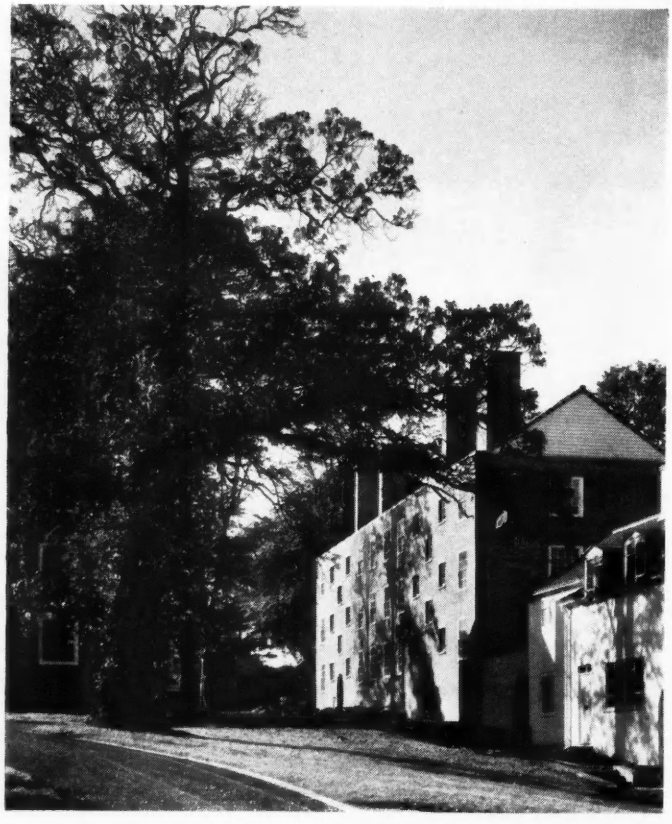
TYPE A1 TYPE B2
GROUND FLOOR PLAN



TYPICAL FLAT PLANS



The community hall



Three-storey flats, Block One

Lammas Green Estate, Sydenham Hill

Subcontractors & Suppliers:—

Accotile flooring, Armstrong Cork Co., Ltd.; *marvec floors and slab tile surrounds*, Broad & Co., Ltd.; *iron balustrading and lamp standards*, Carron Company; *cast stone chimney caps*, Empire Stone Co., Ltd.; *facing bricks*, Finnis, Ruault & Nicholls, Ltd.; *reinforced concrete floors*, Flooring Contracts (London), Ltd.; *ironmongery*, W. N. Froy & Sons, Ltd.; *steel windows*, Ideal Casements (Reading), Ltd.; *cast concrete work*, Kendell's Stone & Paving Co., Ltd.; *asphalt work*, The Lawford Asphalte Co., Ltd.; *tubular steel roof trusses*, Scaffolding (Great Britain), Ltd.; *joinery*, Sharp Bros. & Knight, Ltd.; *roof tiling*, Stirling & Johnson; *electrical installation*, Waring, Withers & Chadwick; *rolling shutters*, Haskins; *wood block flooring*, Hollis Bros., Ltd.; *tarmacadam work*, Tarpaving & Tarmacadam, Ltd.; *garden work*, D. Sullivan & Co.

What's New at the Building Exhibition?

Some Recent Products Reviewed

Following customary practice, 'The Builder' has commissioned an independent review of new materials and methods shown by firms at the current Building Exhibition, open at Olympia, London, until Wednesday next, November 27. Our two Special Correspondents have been given a completely free hand to comment on any products which have drawn their attention, and their reports follow. It will be realised that limitations of time and space must operate, and it is not suggested that these reports are necessarily comprehensive.

Readers at home and abroad who would like further details of any of the products noted, or indeed of any of the exhibits described in our special Exhibition numbers (November 8 and 15) should write in their requirements to us, marking their envelopes 'Building Exhibition'; their requests will be forwarded to the firms concerned.

EQUIPMENT & FITTINGS

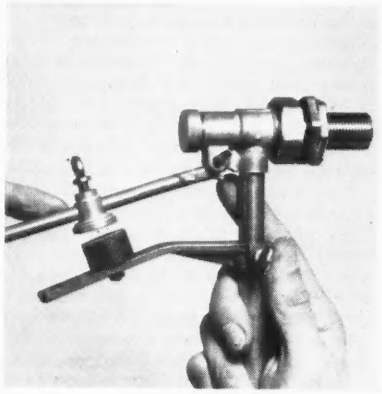
Wide Range of Products

THE same old building Exhibition? 'Yes,' for the cynic and for the visitor who cannot bother to do his part by looking and listening but an emphatic 'No' for those who are still willing to learn.

Two years can seem a long time between exhibitions to some of us, depending upon personal or other circumstances, but from the point of view of the designer and the manufacturer it is often all too short a period when the problem of displaying a new product is to be made something of an occasion. The Building Exhibition is in itself an occasion and should be accepted as such, not only by the exhibitors but by those who are fortunate enough to be able to visit Olympia, for the greatest value of such exhibitions is, possibly, to those concerned with the industry, no matter in what relationship, who live out of London.

The technical Press assist in their editorial and in their advertisement pages in disseminating information concerning new products, but that is not the same as seeing the article for one's self. In London, and this is the only reason for mentioning the capital city, there is the Building Centre and numerous display centres organised by associations, groups of firms or individual concerns which are denied to the majority of people concerned with building.

Two of the most interesting new items seen in the whole exhibition were small but of value far out of proportion to their size, and the cost, it is pleasant to record, low also. PEGLERS, LTD. (Stand E 95/96), have produced a magnetic ballvalve (trade name 'Prestex') which incorporates a magnet fixed on an adjustable bracket which is mounted on the outlet tube to the cistern. An armature, also adjustable, is mounted on the ballvalve arm. When a cistern is flushed the float falls, is attracted by the magnet and by this movement of the arm the piston opens fully earlier than with the orthodox type of ballvalve fitting. In the reverse direction, the valve remains open longer but when the buoyancy of the ball overcomes the pull of the magnet the water supply is cut off. This action will, undoubtedly, help to avoid the hissing and whistling sounds which are all too common particularly when tank and cistern compartments, because of their very nature, are so often ideal places for unfortunate noises to be magnified.

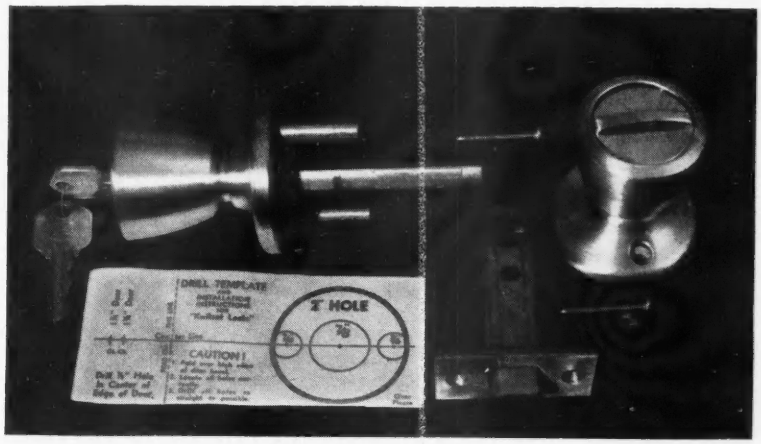


The 'Prestex' magnetic ballvalve. The armature on the ballvalve can be seen above the magnet. Peglers, Ltd. (Stand E 95)

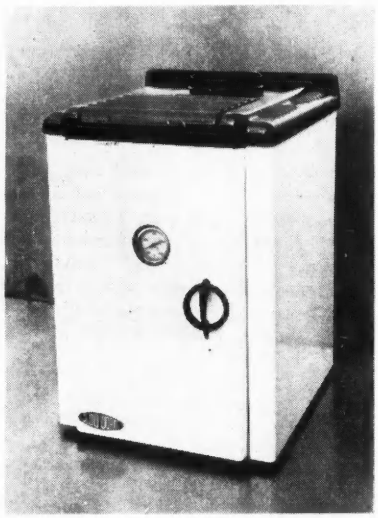
The other small fitting noted is especially interesting for the time that is going to be saved in fixing, thereby reducing costs, one which, at the same time, reaches a high standard in respect of aesthetic design quality and constructional sturdiness. This is the 'Kwikset' lockset which has been introduced from the United States of America by A. J. BINNS, LTD. (Stand B 40). There is a good choice of finish and the sets are very suitable for employment on flush doors. A point, perhaps typical of good American practice, is that a simple template is provided with each lockset.

This being November, and with the weather already rather erratic, it is not surprising that matters concerning heating and insulation are uppermost in a lot of minds. Many, many are the exhibits displaying stoves, heaters and cookers but there appears to be little really new. The forced circulation of hot water through small-bore copper pipes as was displayed by SHELL-MEX & BP, LTD. (Stand Gal. 775) (the system was illustrated in our last issue), is worthy of close examination and consideration not only for new domestic work but for installation in existing property.

Of oil-burning heaters and cookers there are several to be seen, and at long last the manufacturers are beginning to tidy up the appearance of the conversion units. This is clearly so with the 'Esse Century' a large size heat storage cooker whose incorporated oil-burning unit can be obtained as a conversion unit for existing solid fuel heaters of the same type. The manufacturers, SMITH & WELLSTOOD, LTD. (Stand L184/185), claim that oil consumption is only one pint per hour over 24 hours. AGA HEAT, LTD. (Stand A5/6), display three new versions of the 'Agavector' of which the junior model, at under £20, will have the greatest appeal, it is thought. This is a small heater capable of being easily fixed to a wall and connected to the flow and return pipes of a boiler, and should



The 'Kwikset' lockset. A. J. Binns, Ltd. (Stand B 40)



The 'Glow-Worm Junior Aristocrat' boiler for a 25-gal. tank. Glow-Worm Boilers, Ltd. (Stand N 207)

fulfil a want in respect of heating bathrooms and kitchens in particular.

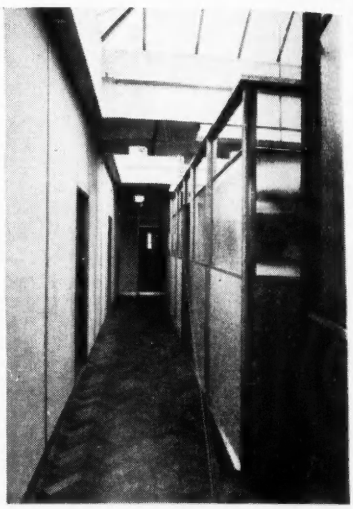
The 'Junior Aristocrat,' a small boiler displayed by GLOW-WORM BOILERS, LTD. (Stand N 207), incorporates the all important secondary air control to the boiler by means of a thermostatically controlled fitting which allows of the air being preheated. This enables the usual worm-like holes or the hit-and-miss ventilators to be done away with. The boiler will supply a 25-40 gallon cylinder with hot water besides a towel-rail and one small radiator at a cost under £24.

Heaters using electricity are seemingly legion but little radically altered. E. K. COLE, LTD. (Stand Gal. 616), show, among a varied selection of space heaters, a new model with built-in thermostat, or 2-heat switch as preferred, known as the 'K Thermovent' series and priced retail on the £10 mark. One firm has incorporated in its tubular heaters a small lamp to indicate when the heater has been switched on. The firm concerned is SIEMENS EDISON SWAN, LTD. (Stand B25/26), and it is surprising that when so many forms of electrical equipment have had indicator lamps incorporated that it is only now that the tubular heater has this feature.

Gas-burning appliances have their disadvantages unless adequate steps are taken to overcome them, and multi-storey buildings tend to create even more than the usual number of problems when it comes to getting the correct amount of air to appliances and, also, disposing of the products of combustion to the open-air. The ASCOT GAS WATER HEATERS, LTD. (Stand P 227), showed, for the first time, the 'Se-Duct' system which was originally developed by the South Eastern Gas Board but patent rights have now been made over to the Gas Council in order that anyone can use the system. The company concerned with the display have produced a first-class booklet illustrating the whole scheme and showing how one of their standard balanced flue multipoint heaters has been adapted for the Se-Duct.

From heaters it is easy to pass to the matter of insulation although, chronologically, insulation should rightly be considered before heating. Two very large firms of international reputation have, together, formed an Acetate Division which have produced bonded 'Fibroceta' for both thermal and acoustic control. COURTAULDS, LTD. (Stand Gal. 749), and BRITISH CELANESE, LTD., have thus entered the building industry in an important way, for this material has obvious advantages over some other materials used for exactly similar purposes. The wide range of widths, rigidities, thicknesses and densities enable its uses to be extremely wide and it is gathered that, already, many firms are interested in incorporating this fibrous wadding in their finished products.

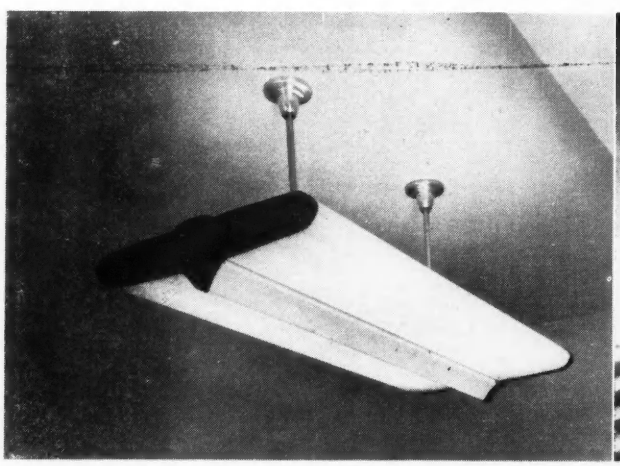
It would appear that manufacturers in this country have really accepted the fact that double windows should be freely available, and all that now remains is to hope that clients will employ architects who will specify them and, most important, authorise the expenditure which is high initially but is soon to be recovered in saving of heat costs alone. The CRITTALL MANUFACTURING CO., LTD. (Stand E 87/88), on their very excellently-designed stand by Mr. Neville Conder, show among a good selection of their products the 'Continental' window which besides being double glazed, reversible, aluminium constructed has, between the glazing, the venetian blind controlled by an arm within the room. That must still be considered in the luxury class

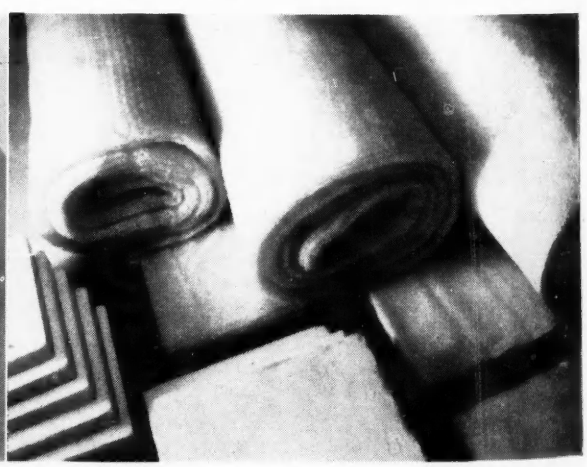


False ceiling and partitioning, shown by Compactom, Ltd. (Stand G 121)

but more appropriately priced is the double-hung sash, again of aluminium, with counter-balances giving finger-tip control and sections which make it completely draught-proof when sashes are closed.

Scandinavian countries have helped the United Kingdom in the past with their designs for windows and, once again, we should be grateful for the window of Swedish origin, the 'Silux,' being manufactured by BOULTON AND PAUL, LTD. (Stands





The new EKCO pendant fitting, with plastic end plates, now available in a variety of colours and in three sizes, 5 ft. (80 W), 4 ft. (40 W) and 2 ft. (20 W). Shown by Ekco-Ensign Electric, Ltd., on Stand O 218. Pictured on the right is bonded 'Fibroceta,' an insulating wadding simple to handle. The type shown weighs 8 oz. per sq. yd. Shown by Courtaulds, Ltd., on Stand 749, Gal.

K 180, Q 237/238). This window, pivot-hung either vertically or horizontally, is of timber and double-glazed but the outstanding feature is the friction fittings of such simple construction that production costs are low. Whilst it cannot be considered at all from the point of view of insulation, the same firm are displaying the 'Naco Sun-Sash' louvres, for which they have part representation in this country, and of the many types of louvre windows seen at the Exhibition this was outstanding in its simplicity of fixing. It, also, appeared more adaptable to fixing into existing timber frames than some other makes.

'Varitone' PVC flooring, designed not to show marks. The Adamite Co., Ltd. (*Stand* 677, *Gal*)

Acoustic insulation, or control as some manufacturers prefer, is covered in a number of ways mostly familiar but the ARMSTRONG CORK CO., LTD. (Stand C 45), displayed for the first time two new tiles. One, 'Travertone,' being a fissured mineral wool tile which will not burn, has high acoustic value and can be surface painted, is of genuine interest. Particularly useful in conditions of very high humidity their other new product, 'Corkoustic,' is of granulated cork and available in tiles plain or serrated.

Not a product but, nevertheless, something of true value, and new, is the booklet issued by the TIMBER DEVELOPMENT ASSOCIATION (Stand Gal. 637) on plywood. The design of the TDA stand is excellent, fulfilling its function admirably in giving the visitor, whether an expert or not, the latest information regarding timber shell roofs.

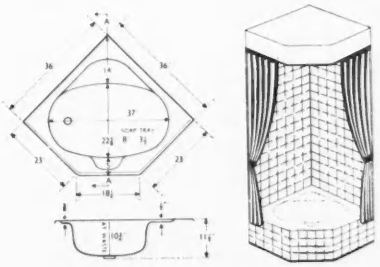
Some firms have created surprise by branching out into completely new lines to those they have been accustomed to in the past. GLOW-WORM heating people are now selling a fibre-glass sink manufactured by one of the firms in the main group. This sink and draining board follows the modern trend of doing without the insanitary overflow outlet and is available in four strong colours at a price which is competitive. EASTWOODS, LTD. (Stand 102/103), showed a variety of products and are handling for the first time, on a large scale, ironmongery. This group are also displaying a new plastic sink, the 'Crelene,' in four different colours and, nearby, the traditional porcelain Belfast sink (but with the difference that each sink was manufactured in two colours) in order to please the colour-conscious housewife who still prefers the orthodox sink.

Whilst no new methods of construction are employed, a firm well known for their partition work, COMPACTOM, LTD. (Stand G 121), now design and build false ceilings and the opportunity has been used to display this new departure in their own offices which have recently been formed in an old workshop.

Light fittings, as is quite usual, are either very good or very bad and are either praised a lot or thoroughly disliked. The amount of fashion-following that goes on is always something of a surprise and at times it was difficult to know on which stand one was. ATLAS LIGHTING, LTD. (Stand 766), with their recessed and surface-mounted range of four basic units and six accessories allow a wide flexibility in display lighting and the same firm's 'Domino' range of fluorescent fittings should please all contemporary-minded architects.

Mosaics have been with us from the Continent for some time but the selection is becoming easier with the importation of new colours, sizes and finishes. A. ELDER REED AND CO., LTD. (Stand G 140), had a stand which well illustrated the uses decoratively of mosaics besides showing their importance as a hardwearing finish to wall and floor surfaces.

BAKELITE, LTD. (Stand D 67), had their laminated plastic in two new patterns 'Maze' and 'Regent' and FORMICA, LTD. (Stand 761-2), introduced the 'Star and Dot range of 12 colours, all of which, no doubt, will be seen in Espresso bars up and down the country shortly. A thin sheet material but of very different description, and use, is the new range of 'Semflex' floor tiles by SEMTEX, LTD. (Stand D 69-70). More important than the range of colours available was the quality of the colouring so often lacking in floor tiles when strong bright colours are desired. To be available shortly from MARLEY TILE CO., LTD. (Stand H 148-9), there is to be a new range called the 'Marleyflex de luxe' which promises well from samples seen.



The 'Caprice' bath-shower, a fitment which combines the advantages of a shower and foot-tray and a sitting bath. It can be installed in a space too short for a normal bath. Allied Ironfounders, Ltd. (*Stand N* 208)

The tendency to provide sanitary goods in larger sizes 'as in the good old days', as a representative put it, was apparent and the lavatory basins from ADAMSEZ, LTD. (Stand F 110), are a case in point. The new 'Lotus' shelf basin satisfies a long-felt want, whilst the new 'Orchid' with a shelf at either side should please the ladies. The shelf in the bathroom is provided in a different manner by the LEEDS FIRECLAY CO., LTD. (Stand G 136-7), who have an entirely independent shelf of vitreous china for fixing to walls. Originally produced to be used in conjunction with their 'Columbine' hairdressers' back wash shampoo lavatory basin, it is likely to be purchased for installation in the domestic bathroom having been seen at this exhibition.

The very word 'paint' seems to set up a reaction, amongst most people, which can only be described as dangerous but INTERNATIONAL PAINTS, LTD. (Stand D 65), with their 'Policrome' system for interior decoration have stolen a march on the legion of competitors and must be mentioned. Described as a system, but more accurately a treatment, it is multi-colour and can be sprayed upon almost any type of surface with, preferably, a primer and/or sealer used. The poetic names used on the shadecard are worth an inquiry alone.

A New Floor Covering

THE ADAMITE CO., LTD. (Stand Gal. 677-9), have been producing polyvinyl plastic floor covering, with an underfelt, for some considerable time. It has always been in plain colours, with the exception of one speckled effect, but with the introduction of the new 'Varitone' finish, 'Vynoleum' can meet the demand for a floor covering which will not immediately show articles dropped upon the surface as in a kitchen when normal food preparation is going on.

The modern version of the venetian blind was displayed in all the colours of the spectrum, and others beside, but it was left for HUNTER DOUGLAS (GREAT BRITAIN), LTD. (Stand Gal. 676), to show a slatted blind of aluminium construction which will give 95 per cent. light exclusion. This 'Luxaflex Audio-Visual Blind' is a modified version of another of this firm's blinds with specially recessed slats to give better closure in conjunction with side channels and light traps at head and bottom. The usefulness as a black-out blind for lecture halls and classrooms is obvious whilst at the same time giving sun protection, light control, heat insulation and attractive window covering which are the normal claims for this type of blind. The only other new details concerning blinds which were noted were minor improvements, by several firms, in the vertical slat blind.

On the stand of IDEAL BOILERS & RADIATORS, LTD. (Stand N 213), there was a new sink, the 'Hostess,' complete with double draining boards and a sensible height splashback. Although this sink of cast-iron with a porcelain enamel finish was of interest, even more so was the apparatus fixed below it ensuring that all the water being pumped into the bibcock was fresh and palatable to drink, having been aerated. It was difficult to pick out anything particularly new amongst the plumbing fittings, but a general rounding-off of angles was noted. However, the BELCO MANUFACTURING CO. (1939), LTD. (Stand A 3), with their new 'Protecta' mixing valve was noted because of the ease of control. In conjunction with

the fine-spray fitting this thermostatically controlled mixing valve will give five minutes supply of water at a suitable temperature from only a three gallons supply. Those who made time to see the special display, arranged by Mr. Lawrence Wright for The Building Trades Exhibition Ltd., will be able to appreciate how much we have advanced in the design of sanitary and plumbing goods. Or how little, and how much more there is to be done!

Among the items on the DOHM, LTD., stand (L 196) were coloured aggregates for stucco work which can be described as new. The size range of these quartz-based aggregates is from ¼ in. down to dust, and they are available by the cwt. in fast colours of red, blue and green with the promise of more colours to come. With a display incorporating a flame test, STRAMIT BOARDS, LTD. (Stand L 197), were able to draw attention to their new slab faced with an asbestos liner and placed in Class 1 as regards spread of flame.

Another firm who were willing to display a fire-retardant ceiling board, used in the form of acoustic tiles, was the TENTEST FIBRE BOARD CO., LTD. (Stand A 2). Their new tiles are pre-treated in Canada with fire-retardant solutions or paints and are known as 'Firepel.' The tiles which are manufactured in this country can, of course, be treated with many types of solutions or paints to meet any required classification as to spread of flame.

It cannot be too strongly stressed that whilst many firms did not display new products, they did have improvements and slight variations on fittings and equipment which have been in demand for a number of years. A case in point is that the FERODO company (Stand C 49) with its stairtreads had a few completely new sections, while some sections which had previously been obtainable only in twin-channel sections are now available in single channel sections as well.

Whilst Sapele, the West African hardwood, is known as a good flooring timber it has not been seen before in the form of the tile now being manufactured by BRITISH PLASTER BOARD (MANUFACTURING) LTD., (Stand E 83). These tiles are 9 in. x 9 in. x 1 in. thick with an ⅛ in. veneer of Sapele on a composition backing which, as no movement occurs with temperature changes, will be very useful with sub-floor heating. It is bedded on a cement screeding and the price, including sanding and wax polishing, is in the region of 42s. per square yard. The timber veneer is resin bonded to the backing.

A stand (No. 681 Gal.) which attracted spectators because of the continuous displays, was that of THOMAS HEDLEY & CO., LTD. (the detergent people, as many remarked), showing their air-entraining and mortar plasticiser in an easily controlled powder form. 'Entrainit' is from Canada where it has been used extensively, and the demonstrations showed that cement mortars, and also concrete and renderings, were given excellent workability and claims were made of greater durability. It is stressed that this is a powder agent and the manufacturers claim that, in mortar mixes, 1 oz. of the material will replace one bag of lime although still yielding the same volume of mortar.

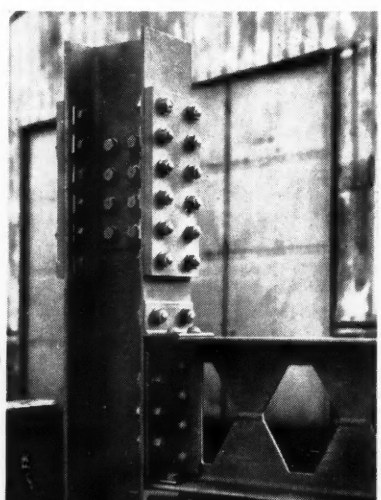
JAMES C. KENNEDY, FRIBA.

PLANT & EQUIPMENT

Many Interesting Developments

IT becomes daily more important for efficiency and productivity to be stepped up in order to counterbalance the increased costs which fall upon industry. There are indications at Olympia this year that this particular problem has been given a good deal of attention by manufacturers of plant and building materials. In the former category, it must be borne in mind that the increased mechanisation of an industry brings its problems. Machines cannot be allowed to stand idle for any undue time. One machine may control the operations of a large number of both skilled and unskilled men. Stoppage of machines is therefore a serious matter. How often, I wonder, have failures of man-made efforts to start 'cold' machines meant considerable loss of site working time? Again, how often have delays occurred owing to failure to drain water-cooled machines during some of the wintry spells which we encounter—often unexpectedly?

The cost of repairs and the loss of productivity at such times can be considerable. The majority of the new machines exhibited—indeed, many of the older types too—are now fitted with air-cooled engines, thus obviating the possibility of a freeze-up. Electric starting of all the machines seen is not yet the rule, but I was pleased to see some devlopments in this direction. The fact that some manufacturers are offering this beneficial improvement will no doubt bring about greater development before another exhibition is held. A point of interest in connection with electric starting is the minimising of mishaps—sometimes a costly matter in more ways than one. With the present-day need for 'Safety on Sites,' this represents further advancement.



Typical arrangement of connections to a steel framed building column using high-strength Torque bolts. United Steel Structural Co. (Stand P 229)

In the field of materials, one finds varying progress (of which more later). There are obvious advantages in some of the traditional methods. Likewise, there are startling developments in new techniques. One cannot help wondering at times (and when visiting Olympia this struck me forcibly) why it is that there has not been a greater 'marrying' of old and new methods. Perhaps, it is because rival interests tend to clash. On the other hand, the future of the building industry must be secured and if this means a re-orientation of some of our ideas—the sooner we get to work the better.

High Strength Bolts

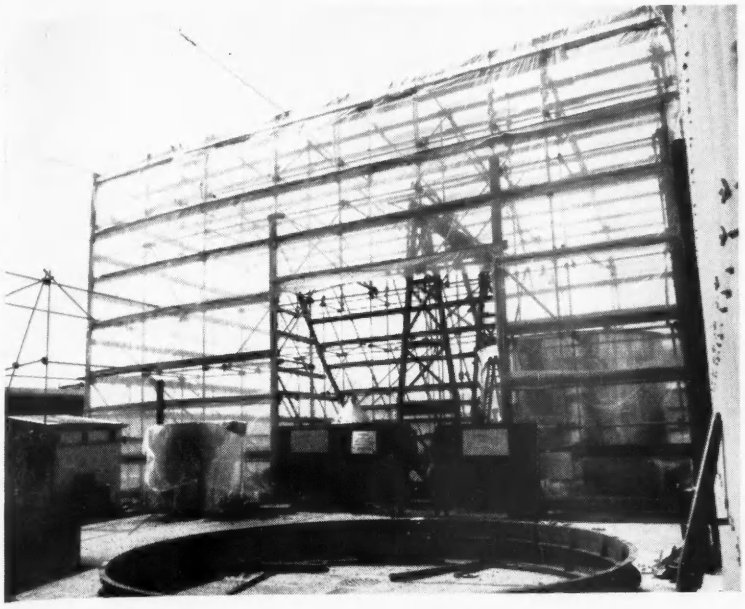
Inter-planetary travel being so much in the public mind today, I imagine I shall be forgiven when I admit that a scale model of steel-work erected for the radio telescope at Jodrell Bank drew me to the Stand P.229 of UNITED STEEL STRUCTURAL CO., LTD. Interesting as this was, and without being in any way disrespectful in this matter, I must confess that the model proved to be the means to a far more important end for me. In normal riveted structure, the strength of a joint is dependent upon the shear or bearing value of the rivets. The new system shown on this stand employs high strength torque bolts, establishing considerable tension in individual bolts so that the strength of a joint is developed by friction at the interfaces of the connected sections. Each bolt is torqued up to a predetermined value, using hardened steel washers under the head of the bolt and under the nut. In addition to greater strength, connections can be made with the new torque bolts much faster than with either site rivets or fitted bolts, while dispensing with the need for service bolting. Two men can make the necessary site connections, using comparatively simple scaffolding.

These high strength bolts have been developed in collaboration with United Steel's central research and development department and have already been successfully tested in a number of structures.

The inroads of corrosion are considerable. It is gratifying to find that this problem is receiving attention. I was impressed by the 'Jason' pistol on Stand 465 Row 'B'—NEALE, WRIGHT & CO., LTD. This de-rusting and de-scaling pistol can be used for removing rust scale and corrosion from all metals, for cleaning stone, brick and concrete surfaces and cleaning concrete forms, mixers and all types of contractors' plant.

The pistol is an air-operated hand tool and consists of a group of hardened steel needles, mounted in individual slots in a needle holder, propelled and retracted by a spring-loaded piston. Air flows continually over the working surface, thus removing loosened scale and dust. By loosening one Allen screw, a chisel holder may be fitted, when all types of chipping tools and chisels, stone and concrete working tools may be used.

Guns of a different calibre were found on the Stand C43 of SECOMASTIC, LTD. I



'Visqueen' polythene film shown providing a draught-proof surround for welding of aluminium bulk storage silos. Shown by British Visqueen, Ltd., on Stand 657 Gal.

particularly noted the new 'Seco "G" Gun,' which reduces operating effort by almost half and incorporates a rather novel trigger action.

One of the means whereby greater productivity can be accomplished is in beating the elements. Progress in this direction by means of anti-freeze has been quite remarkable. On Stand 657, BRITISH VISQUEEN, LTD., I found another aid towards winter working, one, incidentally, which I wrote about some time ago in connection with attempts in America to maintain production during inclement weather. Visqueen is a plastic type of polythene film. It is tough, transparent, flexible and is both waterproof and non-absorbent. Temporary glazing of window spaces, for example, enables work such as plastering to go on without hindrance. On scaffolding, light, mobile shelters can be easily and cheaply made, enabling operatives to continue working in natural light whatever the weather. The material is exceptionally light—even in the heavier grades, 1,000 sq. ft. weigh less than 25 lbs—so that a whole job can be enclosed in a Visqueen covering giving warmth and light whilst it snows or freezes outside.

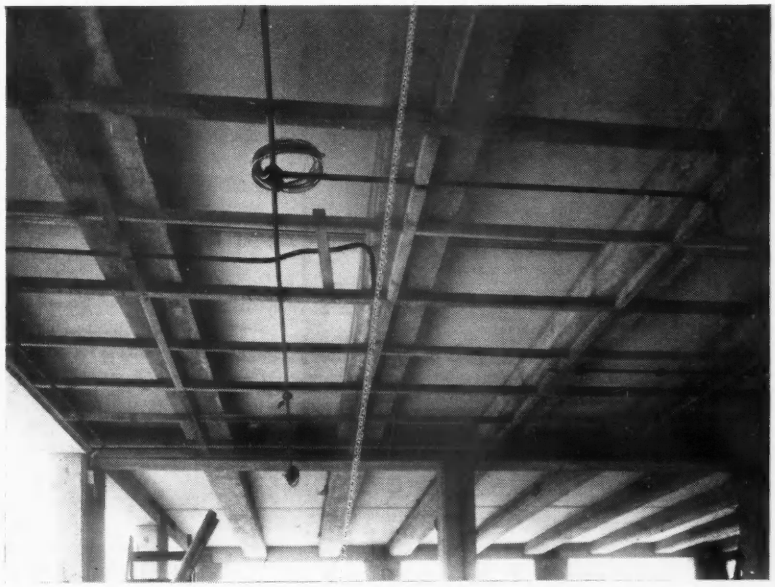
This product is also useful as an underlay for concrete slabs, where it acts both as a separation and curing medium. Since the film is unaffected by acids or alkalis, the concrete is protected whatever the subsoil. Tests have shown that this plastic material laid on top of concrete slab retains 95 per cent. of the moisture. In the case of alteration work, 'Visqueen' enables work to be carried out on one side without interrupting normal use of space the other side.

Economy in the matter of renewals to plant and tools is the claim made in respect of 'Permagrit,' a long-lasting abrasive shown by the BRITISH EQUIPMENT CO., LTD., on Stand 422, Row 'H.' Produced in five forms:—Hand gritter, wood file, grit wheel, flat sheet for use on orbital sanders and sleeves up to 2-in. diameter for spindle sanders, this equipment consists of tungsten carbide abrasive deposited by a patent process on to very thin steel sheet. Produced by Skil Corporation, Chicago, USA, it is claimed that the abrasive lasts on machines 100 times as long as sandpaper. On hand tools, the makers claim that their new process lasts for life. In the case of orbital sanders, the bonded tungsten-carbide grits are available in very fine, fine, medium, medium coarse and coarse. For the sleeves for spindle sanders, it is pointed out that in addition to the longer life, there is no warping.

'Key' Pitch Fibre Pipes for draining are exhibited by KEY ENGINEERING CO., LTD., on Stand H 144. Tap-in taper joints—one in eight feet—make laying easy, even for unskilled labour. No mortar or sealing compound is required. These pipes are available in 2- 3- 4- 5- and 6-in. sizes. They exceed the requirements of British Standard 2760, 1956 and have been favourably reported upon by the Building Research Station. They can be laid in all weathers at a rate of 500 feet an hour. Greater distances are claimed for experienced men. A new product shown on this stand is the 'Key-Conex' stack drainpipe. This fibre drain pipe is suitable for internal stack drainage where this is placed in a recess within the building. Weighing only 2¼ lbs. per foot and produced in 8-ft. lengths this product requires few connections. Normal drainage junctions are available for above and below ground w.c. connections and a special 'Key-Conex' connector has been designed to give watertight and permanent connections for bath, sink and basin wastes, which can be cut and fitted on site exactly where required without having to wait for specially fabricated or cast branches. Special tools for both the drain laying and stack drainage are provided and the makers claim that no special skill is required to tackle these operations.

MONTAGUE L. MEYER, LTD. (Row. P230) are staging a number of demonstrations in connections with 'Glamorock.' After three years of testing in South Africa, this material is now available to the building industry of the world. Little more expensive than a good paint, it is claimed that for the first time in the history of building, an exterior and interior wall facing of natural stone has been perfected. There are 24 basic colours of specially-mined natural stone, but two or more of these basic colours can be blended to produce a surface which resembles terrazzo in the coarser grain, but is much more colourful. 'Glamorock' is applied to the wall in two stages.

(*Continued on page* 925.)



'Bison' hollow purlins to carry lightweight decking. Concrete, Ltd. (Stand C 50)

RESEARCH STATION
Alderley Park, Cheshire

for Imperial Chemical Pharmaceuticals, Ltd.

The main parade from Radnor Mere
Left : the chemical laboratory; right : administrative block

THE design problems were studied for about five years before construction started and the clients had previously carried out considerable research while compiling the design data. Many laboratories in Europe and the United States have been studied by them and by the architects.

This early consultation meant that the architects were able to settle all basic design points by the time the contract was let, and work has been completed with very little modification to the design and virtually no cutting about of the building during the progress of the work.

Alderley Park lies on the outskirts of Manchester just within the Cheshire border; it was chosen for the site of the new laboratories because of its obvious suitability for the type of research conducted by Imperial Pharmaceuticals. Clean air and no public access were essentials. The park provides some 200 acres of pasture surrounded by a barrier of woodland. The site is reasonably close to a main line railway station.

Architects : HARRY S. FAIRHURST & Son

Quantity surveyors : BROWN & SPENCER

Mechanical installation design : R. R. JENNINGS & Partners

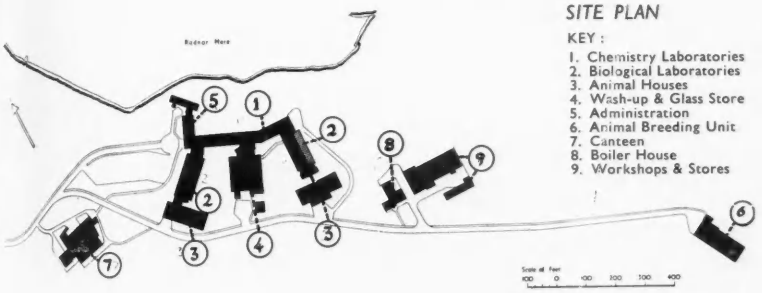
Heating & ventilation design: THE CARRIER ENGINEERING Co., Ltd.

Structural engineers : THE TRUSSED CONCRETE STEEL Co., Ltd.

Builders : JOHN LAING & Sons, Ltd.

Aerial view

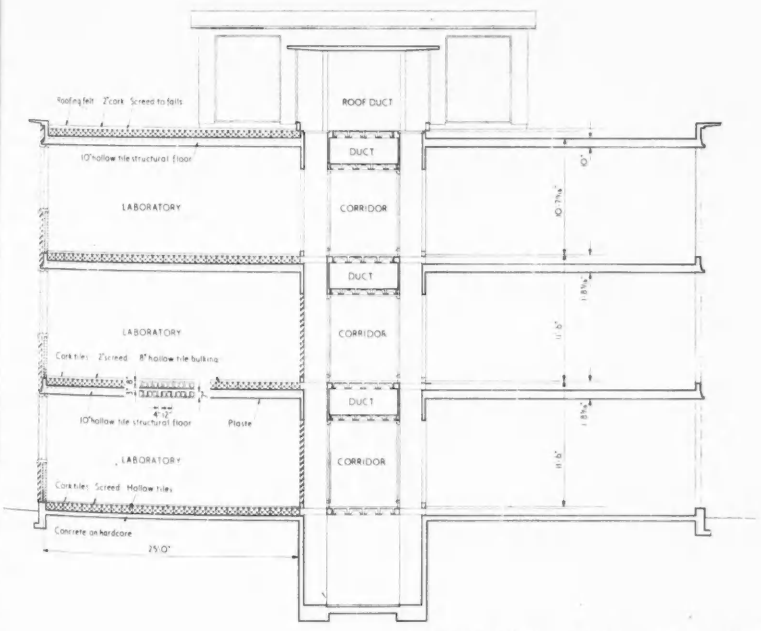
Research Station Alderley Park, Cheshire



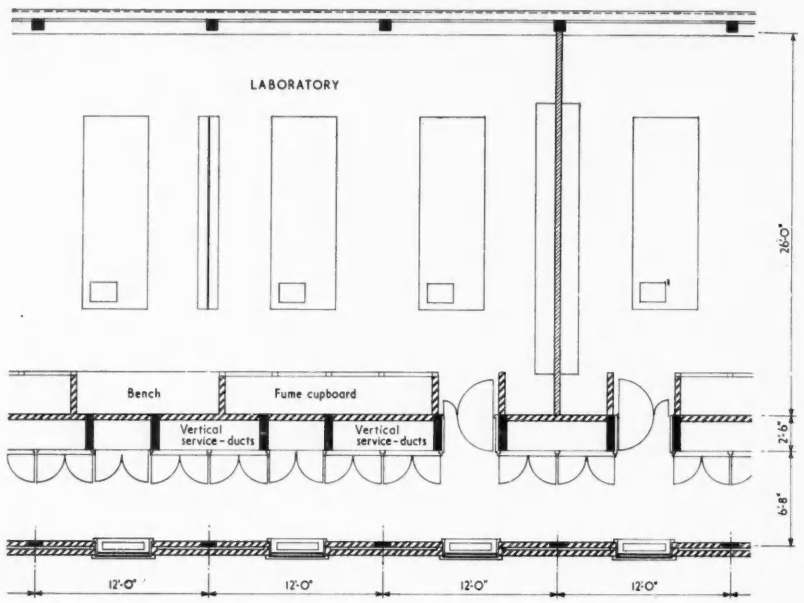
All the buildings, with the exception of the boiler house and workshop, are reinforced concrete structures with brick cladding. Each was designed for its special purpose according to the requirements of the scientists using it. The emphasis throughout was to provide efficient, flexible facilities that could be adapted to new trends of research without the need for structural alterations.

The laboratories : The extensive services and ventilation needed throughout was the chief factor which influenced the design of the laboratories. The three laboratory blocks were, in effect, built around the main ducts for the services which were concentrated around the corridors for ease of access. The services were arranged in repetitive units for electricity, gas, vacuum, air, water, drainage and steam. To assist dispersal of the services throughout the rooms and to conform to the requirement for a flush soffit, the buildings were designed with hollow tile false floors above the structural slab in all areas except the corridors.

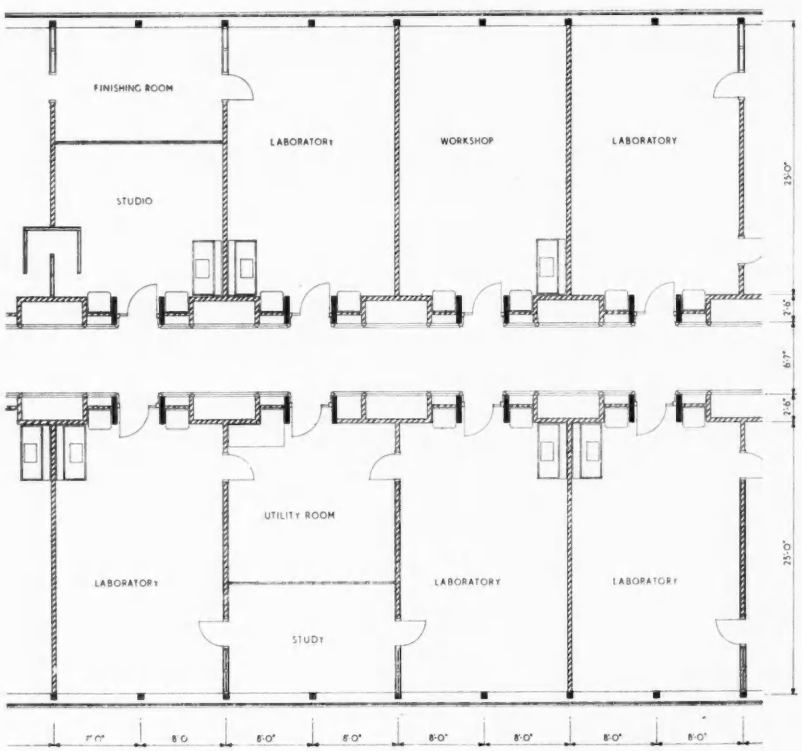
The administration block : The three-storey block consists of two main wings, roughly at right angles and connected by a narrow service room portion. The main entrance hall for the research station is located at one end of the longer wing to form the link between the administration block and the laboratories. Two staircases are provided for the administration block. In the entrance hall the stairs are not supported at landing level, but span from floor to floor as a space frame. The spiral escape stairs from the library wing are an unusual structural achievement; they are separate from the building frame and consist of a single large central hollow column from which the treads are cantilevered.



CROSS SECTION of Biology Laboratory

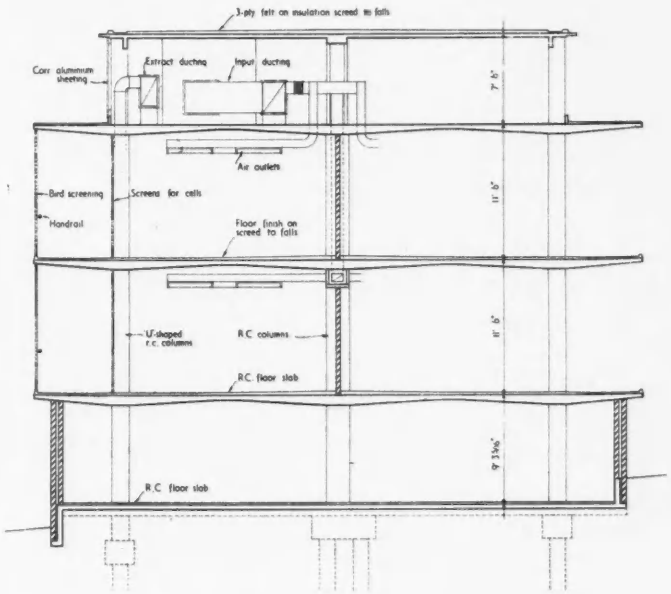


PART PLANS of (above) chemical laboratory; (below) biology laboratory



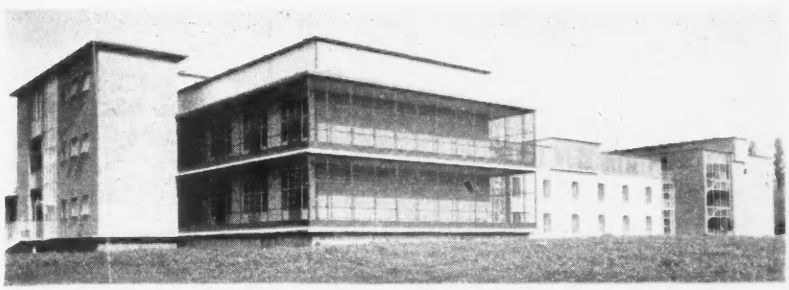
Research Station, Alderley Park, Cheshire

Research Station, Alderley Park, Cheshire



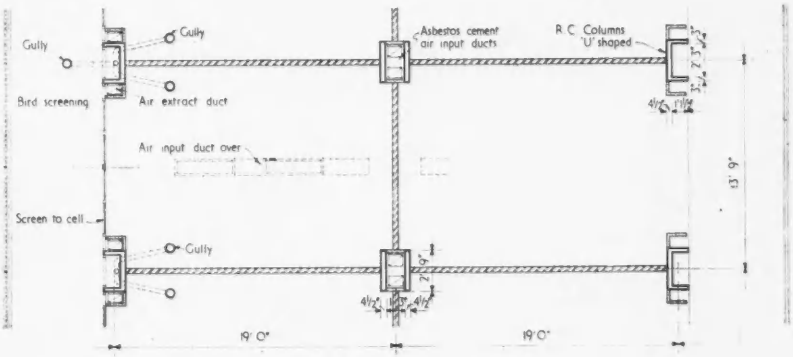
CROSS SECTION—Non-infectious diseases animal house

The animal houses : The two animal houses are structurally similar to each other : one of the houses is used for infectious diseases, the other for non-infectious diseases. The infectious house is linked to the laboratories by open reinforced concrete bridges at ground and first-floor levels; decontamination locks are built at the end of the laboratories for the use of research staff and animal attendants who wish to cross the bridges. Decontamination locks are also provided on each of the working floors of this house ; each lock contains clothes-changing rooms and shower units. The non-infectious animal house is linked to the laboratories on all floors by operating, post-mortem and service room. Both houses have vermin barriers, T-shaped in cross-section, at all exits to prevent the entry of vermin. No timber was used anywhere in either of the buildings (except during construction), because of sterilising difficulties; it is impossible to destroy completely any virus harboured by wooden fittings.

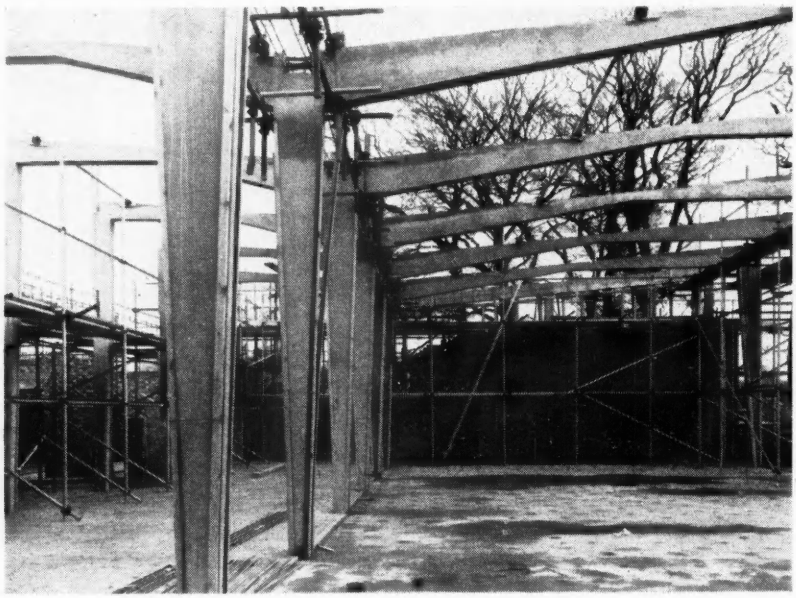


Infectious diseases animal house

The animal breeding unit : The purpose of this building again dictated the type and design of the structural frame to the building. Small experimental animals are reared in pathogen-free conditions to provide, in effect, clean ' test-tubes ' for the biologists. The ten-acre glade in which the building is situated is surrounded by a rabbit-proof fence and the only entry is through a double-gate system. Staff enter the building from a small decontamination block with clothes-changing rooms and showers ; the ' clean ' uniform includes gumboots, since the entrances are sealed by a 3-in. deep bath of disinfectant. The building is completely air-conditioned with ten air changes an hour and no re-circulation ; there are no windows in the arrival cells or any other means for natural ventilation.



PART PLAN—Non-infectious diseases animal house



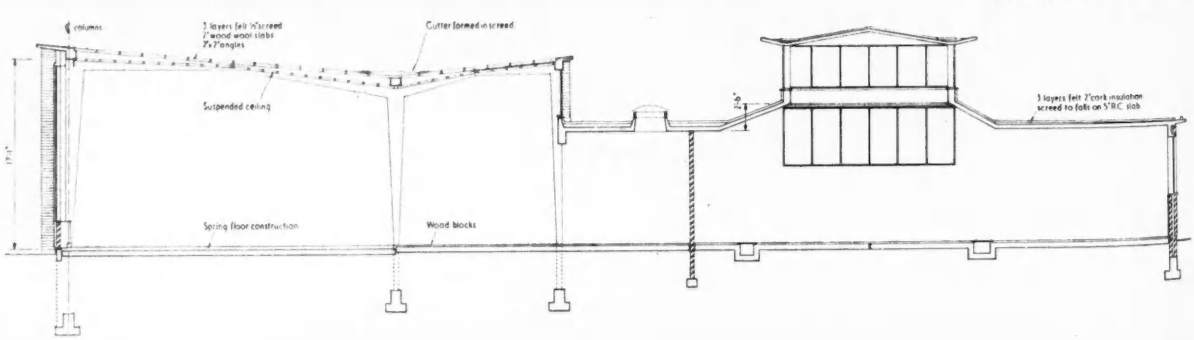
The canteen under construction (above) and finished (below)

Research Station, Alderley Park, Cheshire

The canteen building : In the design of the canteen building the comparative isolation of the research station was recognised and the utmost attention was paid to the welfare of employees. The building was sited to take advantage of the excellent view across the south of the park. The entrance doors are flanked by a pool with playing fountain, and the entrance hall gives access to a kiosk shop, cloakrooms and a barber's shop. In the main dining-hall loosely defined areas are provided for waitress- and self-service, and for snacks; the hall has a sprung maple floor for dancing and there are murals by John and Margaret Greene on both end walls.

The main hall, approximately 100 ft. long by 46 ft. wide, is spanned by double-arch portal frames at 11 ft. centres. One arch of these 8 in. thick reinforced concrete frames spans 30 ft. the other 15 ft. The remainder of the building is of normal *in situ* reinforced concrete beam and column construction with solid slab roofs.

CROSS SECTION of canteen



Wash-up and glass store

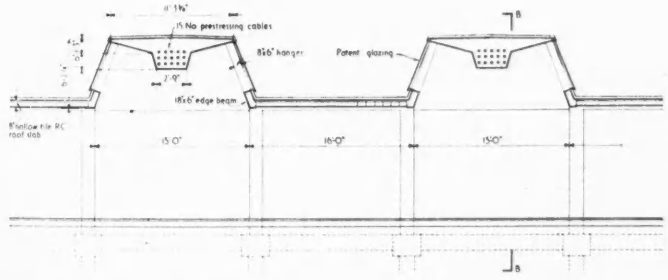
The wash-up and glass store : The single-storey wash-up and glass store serves a number of different purposes. It is used for the receipt and issue of all stores, for glass washing and storage, and for the preparation of culture media for bacteria and fungi.

For the main area, approximately 116 ft. by 126 ft., a monitor type of roof was chosen to give even light distribution and to aid fume dispersal. The monitors are formed by prestressed concrete main beams, T-shaped in section, from which the remainder of the roof is suspended.

The boiler house and incinerator : This building consists of a main boiler hall, 67 ft. 6 in. long by 31 ft. wide, with a number of adjoining rooms of varying heights to house pumps, lavatories and service rooms, and the incinerator and its ash disposal unit ; the whole group forms an irregular ' L ' in plan. A number of basements constructed entirely of waterproof reinforced concrete were also provided below the building to house auxiliary equipment.

General : In view of the unusual beauty of the site exceptional care was taken in the final landscaping around the buildings. A number of large trees have been successfully moved nearer the buildings, and a large number of flowering and herbal shrubs have been planted.

Work started at the site in January, 1955, and was completed in July, 1957. In view of the rigid completion schedule demanded, concreting continued during cold weather by steam heating the aggregates and water, and by using calcium chloride as an additive to the cement.



SECTION—Wash-up and glass store

Research Station, Alderley Park, Cheshire

Subcontractors & Suppliers:—

Electrical installation, N. G. Bailey & Co., Ltd.; *aluminium wall cladding*, Beaumonts, Ltd.; *canteen equipment*, Benham & Sons, Ltd.; *heating & ventilation*, Carrier Engineering Co., Ltd.; *piling*, Franki Pile Co., Ltd.; *incinerator*, Incandescent Heat Co., Ltd.; *windows & patent glazing*, Crittall Manufacturing Co., Ltd., Henry Hope & Sons, Ltd.; *grass seeding*, S. E. Matthews; *sterilising equipment*, James Slater & Co., Ltd.; *structural steelwork*, Robert Watson & Co., Ltd.; *lifts*, Waygood-Otis, Ltd.; *shutter gates*, Bolton Gate Co., Ltd.; *fleximer flooring*, Semtex, Ltd.; *cork flooring*, Mundet Cork Products, Ltd.; *metal work*, Birmingham Guild Co., Ltd.; *tiling & terrazzo*, Carter & Co., Ltd., Hulme & Potts, Ltd., Conways, Ltd., Quiligotti & Co., Ltd.; *calorifiers*, Henry Tattersall; *cork insulation*, Cork Insulation & Asbestos; *vermin screens*, George Wragge, Ltd.; *laboratory fittings*, Grundy Equipment, Ltd.; *panelling & furnishings*, Russell Furnishings, Ltd.; *Sizer unit*, Richard Sizer, Ltd.; *laboratory benches*, Armstrong of Hull; *stage equipment*, Watts & Corry, Ltd.; *sink & drainer units*, Turner & Brown, Ltd.; *venetian blinds*, J. Avery & Co., Ltd.; *tubular guard rails*, John Jones, Ltd.; *entrance gates*, Brookes & Co., Ltd.; *furnishing*, Purmeva, Ltd.; *hydrogen pipeline*, British Oxygen Gases, Ltd.; *hollow tile flooring*, Frazzi, Ltd.; *slater*, J. H. Patteson, Ltd.; *acoustic tiling*, Wm. Beardmore & Co., Ltd.; *tarmacadam*, Constable Hart & Co., Ltd.; *wood block flooring*, W. H. Hunt, Ltd.; *pipe insulation*, Kitson Insulations, Ltd.; *glazier*, L. Keizer & Co., Ltd.; *chain link fencing*, Ebor Concretes, Ltd.; *plastering & granolithic*, J. Glynn, Ltd.; *painting*, Arnold Sharrocks, Ltd.; *wax polisher*, Arthur Braginton, Ltd.; *reinforcement*, Truscon, Ltd.; *sanitary fittings*, Morrison Ingram, Ltd.; *ironmongery*, James Gibbons, Ltd.; *dome lights*, T. & W. Ide; *duct covers*, The Dover Engineering Works, Ltd., Broads Manufacturing Co., Ltd.; *brass matwell frames*, The Birmingham Guild Co., Ltd.; *common bricks*, London Brick Co., Ltd.; *facing bricks, golden russets*, Himley Brick Co., Ltd.; *carcassing & shuttering timber*, Montagu L. Meyer, Ltd.; *concreting aggregates*, Trentham Gravels, Ltd.; *cement*, Wilson & Wylie.

CHARTERED QUANTITY SURVEYORS

The Annual Dinner

THE 'extremely opportune' moment chosen by the Government to reintroduce firm price tendering was referred to by MR. HUGH MOLSON, Minister of Works, at the Chartered Quantity Surveyors' annual dinner, which was held at Grosvenor House, W1, on Tuesday evening. Mr. Kenneth K. Dale, chairman of the Quantity Surveyors' Committee of the Royal Institution of Chartered Surveyors, presided. The toast of the guests was proposed by Mr. J. Gordon Aston, member of the Quantity Surveyors' Committee and the responses were by Mr. Molson and Mr. Ian D. Yeaman, president of the Law Society.

MR. MOLSON began his remarks by referring to the great importance of the building industry in the life of the nation, which could be judged by the fact that some £2,100m. were spent on building each year. As a Conservative he was doubtful if anyone ever found the moment opportune to change anything! However, last April he announced that the Government intended to return to the old policy of firm price tendering. This was limited to contracts likely to be completely planned in advance.

'From our point of view,' the Minister declared, 'the moment proved to be extremely opportune. Our experience up to date shows that the experiment has gone extremely well, and it has obtained the support of some of the most enterprising building concerns in the country. One contractor who allowed himself a 2 per cent. margin to cover increases in cost has said that ¼ of 1 per cent. was in fact all that he needed.

Reducing Costs

'I fully realise that firm price tendering coupled with the increase in the Bank rate and a ceiling on bank advances is going to subject the building industry to a certain amount of pressure. I hope, therefore, that we shall all co-operate so that all who are in any way connected with building will help to reduce costs. Quantity surveyors can certainly help. In addition to all you do in helping the architect to prepare his estimates and contract documents, you can help by ensuring that interim payments are made punctually and final accounts settled quickly.'

Some time ago the contractors asked him, the Minister continued, whether it was possible to lessen the amount of money held as retention. The Ministry of Works went into this matter and the conclusion they reached was an interesting one. They found that although the amount of retention money held was in some cases unduly high, a much greater financial burden was placed on the contractor's shoulders by the delay in making interim payments during the work.

The first necessity, therefore, was for the quantity surveyor to prepare the valuations of work done as speedily as possible. It was then the duty of the building owner to make the payment promptly. 'We have tried in my Ministry to ensure that this is done, and I think we have a good reputation with builders in this respect.

'The introduction of firm price tendering should greatly simplify your task and enable you to complete it much earlier,' Mr. Molson went on. 'This should result in interim payments to the contributor being made more promptly and therefore reduce very substantially the amount of money on which he has to pay interest to the banks. It should also enable the final account to be settled more promptly in the way that the contractors urged upon me. This is one way in which I believe firm price tendering will prove to be in the interests of the contractors.

'It has been suggested that bills of quantities are now unduly complicated and too detailed. I am all in favour of trying to make such documents as simple as possible and I think it might be well worth while for representatives of architects, contractors and quantity surveyors to consider this question.

'At the same time I am sure that it is necessary, if pre-planning is to be effective, that the bills of quantities shall contain full particulars of all that will be needed for the building.'

There was another realm where already co-operation was taking place between the architects and the surveyors. The RICS Cost Research Panel was engaged in studying methods by which the present high cost of building could be reduced.

As Minister of Works, Mr. Molson concluded, he had his part to play in the battle the Government had launched against inflation. The building industry, he believed, stood to lose more than any other by continued inflation. He had, however, complete confidence in the industry as a whole to look more carefully at its margins and so contribute in the difficult times to keeping the building industry going in the future as in the past.

Those present included: Mr. Kenneth Cross, PRIBA, Mr. R. McKinnon Wood (Chairman LCC), Sir Edward Muir, Mr. W. M. Balch, Mr. L. A. Walden, Mr. Guy Biscoe, Mr. H. S. Oddie, Mr. G. W. Grosvenor, Sir Percy Thomas, Sir Charles Mole, Mr. W. Kirby Laing, Mr. Hubert Bennett, Mr. Sydney Tatchell, Sir George Fretwell, Mr. J. H. Mills, Mr. Frank Woodcock, Sir Alexander Killick, Mr. S. F. S. Hearder, Mr. F. R. Steel, Mr. H. G. Tyrrell-Evans, Mr. Ian M. Leslie, Mr. P. F. Brandt, Mr. Ian G. Neilson, Mr. J. W. Gray, Mr. C. D. Spragg;

Sir Hugh Beaver, Sir Thomas Bennett, Prof. H. O. Corfiato, Sir Godfrey Mitchell, Prof. Basil Spence, Messrs. H. A. Ackland, A. R. F. Anderson, C. H. Aslin, Arthur Bailey, R. O. Bond, A. T. Brett-Jones, J. T. A. Brooks, J. A. Burrell, Peter Chamberlin, H. Conolly, H. G. Coulter, A. J. Culley, R. G. Davies, Alan W. Davson, Graham Dawbarn, J. Eastwick-Field, J. Innes Elliott, R. L. Everest, C. T. Every, A. G. Sheppard Fidler, R. O. Foster, R. H. Francis, J. R. Furbur, Frederick Gibberd, Leo L. Hannen, E. C. Harris, L. E. Henderson, T. Cuthbertson Hill, Frank Hyams, F. L. Jackman, W. James, Arthur W. Kenyon, E. W. Leaning, H. J. Whitfield Lewis;

Alister MacDonald, F. J. Meekins, C. C. Moore, A. J. Oakes, J. G. Osborne, E. Harold Palmer (hon. Sec. RICS), P. R. Pank, Rex Procter, John Ratcliff, Andrew Renton, C. E. Richards, H. Fitzroy Robinson, E. Morley Smith, C. G. Stillman, Cyril Sweett, Gordon Tait, M. H. Thackray, J. M. Thin, N. Tweddell, G. P. Vale, H. J. Venning, G. D. Walford, Michael Waterhouse, A. B. Waters, G. F. Whitby and F. R. S. Yorke.

News of the Week

Quantity Surveyors at Play

ALWAYS one of the more pleasant events of the building year, the annual dinner of the Quantity Surveyor members of the RICS, held in Grosvenor House on Tuesday night, brought together nearly 1,100 members and guests, the latter of whom enjoyed hearing themselves toasted in three good speeches. A single toast, apart of course from the loyal toasts, has become an RICS habit that might well be imitated more widely, especially when there is a well-chosen variation of speaker. Mr. J. Gordon Aston spoke for the Royal Institution in a speech full of Irish wit, and the Minister of Works, Mr. Molson, was in his best form in responding; he provided the filling in the sandwich by giving a forthright survey of the economic situation; his solid confidence that when we come out of our national difficulties the building industry will lead on the road to recovery was well received.

The president of the Law Society, Mr. Yeaman, admirably accomplished the difficult task of following Mr. Gerald Moore, the accompanist, who set an individual seal on the evening by his stories of the musical world and by his pianoforte playing. Mr. K. K. Dale, the chairman, must have been well satisfied with the occasion.

Joint Symposium

A JOINT SYMPOSIUM entitled 'Bridging The Gaps' has been arranged by the Preston, Blackburn & District Society of Architects, to be held at the College of Further Education, Alston Hall, Longridge, nr. Preston, from December 6-8. The title indicates that this will be a lead-on from discussions which took place in December last year at a symposium on 'Gaps in Building Know-How,' also held at Alston Hall.

Mr. T. Mellor, BArch, ARIBA, president of the Society, will open the symposium and speakers will include Mr. W. A. Allen, BArch, ARIBA, on 'Trial and Error'; Mr. S. Johnson-Marshall, ARIBA, on 'A Grammar for Modern Building'; Mr. H. A. Close, MA, on 'Bound by Contract'; Mr. K. J. Speakman-Brown, FRICS, on 'Counting the Cost'; Mr. L. Statham, on 'Profit by Experience.' Summing up will be by Mr. E. L. Bird, ARIBA. Details can be obtained from Mr. F. A. Hewitt, ARIBA, Secretary, The Mount, Marshalls Brow, Penwortham, Preston.

Hong Kong Architects

THE Hong Kong Society of Architects, at their first annual general meeting, have elected the following officers for 1958: Mr. A. M. J. Wright, ARIBA, ARICS, president; Mr. H. G. F. Robinson, FRIBA, vice-president; Mr. J. R. Firth, ARIBA, AIAA, secretary; and Mr. J. T. Hurst, ARIBA, treasurer. The secretary's address is The University of Hong Kong.

FAS Dinner and Ball

AS BEFITTED the event in a year when they have a Welshman as president, there

was a strong Welsh flavour about the annual dinner and ball of the Faculty of Architects and Surveyors, which was held at the May Fair Hotel, W1, on Friday evening (November 15). The orchestra had evidently been well primed on the invasion from the Principality, and in addition to playing 'Land of Our Fathers,' seemed to incorporate strains of 'Men of Harlech' and other Welsh airs into most of the dance tunes.

The Toast of the Faculty was proposed by Mr. E. Gwyn Davies, MC, president of the Pontypridd, Rhondda Valley and District Law Society, and those who expected to be entertained by a fine outpouring of Celtic oratory were not disappointed. After telling many an amusing anecdote with a fluency and gusto that few Englishmen could hope to rival, Mr. Davies referred to the growth of the Faculty of Architects and Surveyors, which had nearly trebled in the past five to six years so that membership now stood at nearly 2,000.

The president, Mr. G. F. Grizelle, in his response, said that the growth in membership in no way meant that membership of FAS was open to all; all younger members came in only through examination and of every 100 applicants from those of maturer age only 25 were accepted. The toast of the guests was proposed by Mr. S. Clough, FRIBA, and Mr. R. Vernon-Smith responded.

Trees in the Mall

IN ANSWER to a question in the House of Commons on November 12, the Minister of Works, Mr. Hugh Molson, MP, stated that his advisory committee had re-examined the trees in the Mall since the inner rows were thinned two years ago.

'They find that the remaining trees have benefited from being given more space,' said Mr. Molson, 'and accordingly they recommend that the outer rows should be similarly thinned this winter. I have accepted this recommendation, and alternate trees will be removed from the outer rows on either side of the Mall before Christmas.'

Tyranny at Edmonton'

FOLLOWING the quarterly meeting of representatives from all parts of the UK, the Council of the Engineers' Guild has issued this statement about the refusal of the Edmonton Borough Council to modify its insistence upon all employees (except certain medical categories) belonging to a trade union:

'The Council of the Engineers' Guild has noted with regret the refusal of the Edmonton Borough Council to withdraw a locally imposed condition of employment by which the professional engineers on the staff of that Borough Council are required to be members of a trade union.

'The decisions taken by the Edmonton Borough Council from time to time not to apply such a condition to members of the medical and allied professions, nor to the Borough Surveyor, are sufficient answer to the reported statement by the chairman of its establishment committee that the Council is not prepared to abandon what it regards as "a major principle of employment in this country."

'The Guild Council considers such a requirement inconsistent with the professional standing of the persons concerned, irrelevant to their capacity to carry out their professional duties, and a serious interference with the freedom of the individual.

'The Guild Council is determined to safeguard the freedom and uphold the status of the professional engineer. It must, therefore, resist the decision of the Edmonton Council by every means at its disposal, and calls on all members of the profession, and of other professions which may be similarly affected, for support.'

Edmonton Council's policy on this matter was the subject of a leading article in *The Builder* of October 25.

COMING EVENTS

SATURDAY, NOVEMBER 23

INSTITUTE OF BUILDING MANAGEMENT.—Annual meeting. Conference Hall, Olympia, SW1. 2.30 p.m.

INSTITUTE OF BUILDERS.—Licentiate Discussion Club. Annual dinner and dance. Kensington Palace Hotel, Kensington High-st., W8. 6 p.m.

MONDAY, NOVEMBER 25

CENTRAL COUNCIL FOR THE CARE OF CHURCHES.—Post-war church buildings exhibition. Muncipal Art Gallery, Plymouth. (Continuing until December 14.)

ISTITUTE OF BUILDERS LICENTIATE DISCUSSION CLUB (Birmingham Centre). — Annual dinner. Grand Hotel, Birmingham. 6.30 p.m.

TUESDAY, NOVEMBER 26

INSTITUTION OF CIVIL ENGINEERS. — 'The Design and Construction of a Dry Dock at South Shields for Messrs. Brigham & Cowan, Ltd.' By Mr. P. F. Scott and Mr. L. M. Ramage. Great George-st., SW1. 5.30 p.m.

WEDNESDAY, NOVEMBER 27

LCC CENTRAL SCHOOL OF ARTS AND CRAFTS. —Exhibition of work by W. R. Lethaby. Southampton-row, WC1.

ILLUMINATING ENGINEERING SOCIETY.—'Planning the Interior.' By Mr. B. P. Westwood, FRIBA. 66, Portland-pl., W1. 6 p.m.

INSTITUTE OF BUILDING ESTIMATORS (London & Home Counties Region).—'The Civil Engineering Construction of Calder Hall.' By Mr. J. F. Varcoe. Bedford Corner Hotel, Bailey-st., WC1. 7.30 p.m.

ARCHITECTURAL ASSOCIATION. — 'Architectural Aspirations.' By Mr. M. Pattrick, FRIBA. 36, Bedford-sq., WC1. 8 p.m.

THURSDAY, NOVEMBER 28

TOWN AND COUNTRY PLANNING ASSOCIATION. —National conference, 1957. 'Post-War Planning: Stocktaking and Prospect.' Opening by Mr. Henry Brooke, MP. County Hall. 10.15 a.m. (Continuing until November 29.)

FEDERATION OF ASSOCIATIONS OF SPECIALISTS AND SUB-CONTRACTORS.—Annual luncheon. May Fair Hotel, W1. 1 p.m.

THE ARCHITECTURE CLUB.—Debate on the proposition: 'That America is Leading Architecture Astray.' Opening speakers—Mr. E. Maxwell Fry, CBE, FRIBA, and Mr. R. Sheppard, FRIBA. Simpson's, The Strand, WC2. 7 p.m.

FRIDAY, NOVEMBER 29

INCORPORATED ASSOCIATION OF ARCHITECTS AND SURVEYORS (London and Home Counties Branch).—Annual meeting. 29, Belgrave-sq., SW1. 6 p.m.

SATURDAY, NOVEMBER 30

LEEDS SCHOOL OF ARCHITECTURE AND TOWN PLANNING (Past Students' Association).—Annual Reunion and Diploma dinner dance. Great Northern Hotel, Wellington-st., Leeds 1. 7 p.m.

Flats Plan Abandoned

AFTER criticism by the Royal Fine Art Commission of the proposed development of the Queen's-road Estate, Richmond, Surrey, and the erection of a 20-storey block of flats on Richmond Hill, Richmond Council Estates Committee are to recommend the council not to approve the plan for the block of flats. The scheme was illustrated in our issue of July 26 last.

Danish Planner's Visit

MR. BO CHRISTIAN JENSEN, the distinguished Danish town planner who was senior planning officer during the preparation of the master plan for Welwyn Garden City Development Corporation, is on a six weeks' visit to the United Kingdom until December 1, under the auspices of the British Council.

Students' Reunion

THE annual reunion of past students of the Leeds School of Architecture and Town Planning will this year take the form of attendance at the school's annual diploma dinner-dance which is being held on November 30, at the Great Northern Hotel, Wellington-street, Leeds 1. Details can be obtained from the Honorary Secretary, Mr. A. V. Montague, Bank Buildings, Hyde Park, Leeds 6.

Emeritus Professor

THE title of Emeritus Professor of Architecture was conferred on Mr. Stephen Welsh, FRIBA, who recently retired from the Chair of Architecture at Sheffield University, by the Sheffield University Council on November 15.

Isle of Ely Planning

ISLE OF ELY CC invite applications by December 9 for the post of County Planning Officer. Salary £1,625 x £55—£1,900. Details advertised in this issue.

Professional Announcements

MR. CLIFFORD CULPIN, FRIBA, has taken into associateship, with effect from April 6, 1957, MR. ROLAND ROBERTSON, MR. LEONARD F. HOBART, MR. ANTHONY SARGEANT and MR. PHILIP VALLIS (AA.RIBA). The practice will continue under Mr. Culpin's name from 39, Doughty-street, London, WC1.

MR. L. G. DIGHT, FRICS, chartered quantity surveyor, has moved his offices to 35, Portland-place, W1 (Tel. Langham 5341), where he will be glad to receive trade literature.

FROM 'THE BUILDER' OF 1857

Saturday, November 21, 1857

THE BELLS AT WESTMINSTER AND ST. PAUL'S.—It is a curious coincidence that the great bell at St. Paul's appears to have met with a disaster like that which has befallen the modern monster bell at Westminster, before the building was completed. Allan Cunningham, in his life of Wren alluded to it as being one of the charges brought against Wren by the Commissioners of St. Paul's, as a fraud from bad workmanship, to which, with other alleged frauds and abuses, Wren most satisfactorily replied showing that the authorities had allowed the great bell to be improperly struck with a hammer by the public for a money consideration! C. C. N.

CERTIFICATED HOUSES

NHBRC's New General Specification

Reviewed by A. J. M. TOLHURST, ARIBA

THIS Specification,* published on November 5 as a National Standard of Construction for Speculative Housing, has been prepared by the Specifications Committee of the National House-Builders' Registration Council, a body formed in 1936 by over 20 organisations interested in housing (building societies, trade unions, purchasers, etc.) for the purpose of raising the standards of speculative house-building. It is approved as such by the Council, who publish it, for

(a) Speculative builders who are enrolled on the Register maintained by the Council; and

(b) Prospective purchasers who are attracted by the idea of owning a house built to National standards.

To enforce the requirements and provisions of these standards the Council maintain a register of builders who agree to build houses to the Standards of Construction, and to permit at least six inspections during the period of construction, which the Council's technical staff, on payment of a fee of three guineas a house, carry out on a basis of at least once every three weeks, and on an average six times during the period of construction. If these inspections are satisfactory and the standards have had compliance, a certificate to this effect is issued by the Council to the builder, whom it presumably assists in making sales, and who hands it to the purchaser as a form of guarantee.

The Drafting Committee

The drafting committee of the Council, as detailed in the preamble of the specification, consisted of three civil, mechanical and municipal engineers, four builders, two surveyors, one doctor, three laymen (presumably) and three architects —not one may think a very well-balanced committee, which would have been greatly strengthened, as has been found in Codes of Practice drafting committees, by the inclusion of representatives of operatives, preferably from different parts of the country, to keep the terminology in order, a quantity surveyor to advise on costs, and representatives of manufacturers of building materials.

This committee—with the assistance of observers appointed by the Ministry of Housing and Local Government and the Ministry of Works, and help from the Building Research Station and the Forestry Research Laboratory—laboured for three years to produce this fifth revision of the Specification of Constructional Standards.

Perusal of the specification emphasises how well the British Standards Institution prepare Codes of Practice and British Standards Specifications, and suggests the need for a balanced drafting committee of the Institution—including speculative builders, operatives and architects with housing experience—to be set to work immediately to produce a National Code of Practice for house-building for the NHBRC to administer, enforce and issue certificates of compliance to an approved Register of Builders..

As it is the drafting committee of the Council has apparently decided not to refer to or make use of the vast wealth of knowledge, thought and experience which has gone into the preparation—by drafting committees drawn from the professions, etc. connected with building of the British Standards Institution—of neary 100 Codes of Building Practice and some 300 British Standards Specifications for building materials, though it does make occasional recommendations that materials should comply to British Standards, and gives a table of names of patent plasters, taken from BCP 211—Internal Plastering.

Neglected Information

Neither has much use been made of the information contained in the Housing Manuals and Appendices, the Building Research Station Digests and other publications of the Building Research Station, various publications such as 'Plastering' issued by the Ministry of Works, etc., or the requirements of the 1953 Model By-laws and of the by-laws made under the London Building Acts.

No effort again, it would seem, has been made on this specification of standards to improve the technical education of the speculative builder and his operatives in the new economical and non-traditional methods of construction such as means of providing insulation, single-stack plumbing, cross-wall construction and the vast amount of knowledge made available by the advances in public authority housing. The specification lacks balance; as a national standard it should cover the possible requirements of the whole country, with the same degree of detail, or else refer to the need for compliance with local Building Acts, etc., and leave it at that.

As it is, great emphasis is used in describing some matters fully covered by the requirements of the 1953 Model By-laws already, by-laws which cover every building in the country, while other by-law requirements are ignored. For instance, Clause 44, 'Flues and Chimney Pots' (a most unusual specification heading), fills 1¼ pages of the 37 operative pages of the specification and minutely details every item covered by the by-laws, but omits to make reference to the most important detail of 'throat' design or the use of a 'throat' unit to prevent down-draughts and smoke.

The important trade of painter is dealt with in 1¼ pages—with no reference to standards of materials — yet there are numerous British Standard Specifications covering paints. The specification calls for eaves gutters to be painted inside and out—a practice long since discontinued as unnecessary.

Ventilation to w.c.s is described in detail and generally complies with the requirements of the Model By-laws (but not to the drainage by-laws appertaining to the County of London), with the additional requirement that the area of window to open be in no case less than 85 sq. in. How or why 85 sq. in. it is difficult to determine. No mention is made of the need for permanent ventilation to staircases and w.c.s, both of which are required by the London Building Acts, 1939, etc., and by-laws under the Public Health Act (London), 1891.

The National Council's approval must be obtained before any roofing materials other than slates or tiles are used.

The specification includes some tables of joist, etc., sizes and spans, but as these differ from the requirements of the by-laws and certainly from the requirements of the London Building Acts, they should have been omitted in full and not in part, and the matter covered by a reference to the need to comply with the requirements of the relevant by-laws.

The terminology includes descriptions that are not common to the building trades for any part of the country—roof boarding, felting or sarking is described as 'undercovering'—and 'oversite concrete should have a dense surface which should be left rough for superimposition of a screed where necessary' is not the clear concise description to be expected in a National Standard. Specifying Western red cedar for use as joists seems unusual and the wrong use of this timber.

Other Omissions

No mention is made in the specification of heights of habitable rooms, fire-resistance requirements to doors, fire-stop walls, etc., although the specification purports to cover two-storey blocks of flats.

Prior approval of design and details by the Council must be sought before construction to permit the use of foundations other than normal strip and reinforced suspended concrete floors—which seems unnecessary, as calculations, etc., for such construction have to be approved by the local authority under the provisions of the by-laws.

The specification purports to deal with Constructional Standards only, otherwise it could be much more widely criticised, but it does make one attempt to influence design, as in Clause 87, Stairs, it states: 'Winders are to be avoided where possible and must now in any case extend beyond 90 degrees.'

The more this Specification of Constructional Standards is read, the more apparent becomes the need for a National Code of Practice for Speculative House Construction, and that in drafting such a code full use should be made of the knowledge and experience of the more advanced housing authorities, local or otherwise, in the country. This code should be a full code, covering materials, design, construction, etc., and should make full use by reference of the British Standards Codes and Specifications.

* National House-Builders' Registration Council. General Specification of Constructional Standards for Houses and Flats (not exceeding two-storeys in height). Fifth edition, price 10s., from 58, Portland-place, W.1.

Light Rolled Steel Sections

THE 'UNIVERSAL' BEAM

Reviewed by G. W. KIRKLAND, MBE, MInstCE, etc.

THE introduction of new materials for building use is ever a matter for serious consideration by architects, engineers and builders, indeed by all who have the welfare of British industry at heart.

Dorman Long's new product, which was introduced to the public in a paper, 'Universal Beams and Their Application,' read before the Institution of Structural Engineers on October 31, is the biggest advance in structural materials since the advent of prestressed concrete, and will fill a long-felt need throughout the industry. 'Universal' beams will be produced by Dorman Long and Co.'s new steel plant at Lackenby, which will have cost more than £60 million on ultimate completion, and the makers hope to produce their first beams for the market early in 1958.

Reducing Fabrication Costs

The mill in which the new beams will be rolled is the most advanced piece of engineering production equipment in the world, and it is hoped that it will enable structural frames to be constructed at a lower cost than obtainable at the moment, by showing a big reduction in fabrication costs.

While not entirely new to this country, through having been available from the Continental rolling mills in Luxemburg, and more recently the broad flange beams for columns produced by the Cargo Fleet Iron and Steel Co., the 'Universal' beam offers a wide range of steel sections which will be available to structural engineers through the whole of the constructional steel trade, and enables designs to be prepared for competitive tender utilising these new members. Hitherto the use of the Continental product has depended upon the availability of an import licence and acceptance of the premise that the work could be carried out only on a non-competitive basis. The reorganisation of Dorman Long's establishment, separating as it does the numerous activities of the firm, ensures the availability of supplies of 'Universal' beams to constructional firms throughout the country, thus ensuring that no monopoly of use is created.

The new beams are divided into two groups, beam sections and column sections, and in every case the section modulus to weight comparison and hence the efficiency ratio shows distinct advantages in use of these new sections. In deciding what sections to produce, the makers have obviously undertaken considerable technical and market research since production of the wide range available in the United States and on the Continent would not be compatible with good economy for the needs of the British market.

The sections chosen, of which a detailed list is given below, provide an excellent range of varying moduli and depth. The variation in strength of similar sections, two to seven different sectional areas being available within the same nominal dimensions of the various beams and columns, is a great advantage.

The 'Nominal' Dimension

The introduction of these new beams will necessitate an appreciation by architects and engineers of their value and of the need to accept certain conditions to obtain maximum economy in structures. One of these conditions is the acceptance of the 'nominal' dimension of the sec-

Serial Size	Wt. per ft.	Depth of Section a	Width of Section b	THICKNESS Web t_1	THICKNESS Flange t_2	Root Radius r	Slope inside Flange	Depth between Fillets d	Area of Section	Moments of Inertia About x—x	Moments of Inertia About y—y	Radius of Gyration About x—x	Radius of Gyration About y—y	Elastic Modulus About x—x	Elastic Modulus About y—y	Plastic Modulus About x—x	Plastic Modulus About y—y	NOMINAL SIZE
ins.	lbs.	ins.	ins.	ins.	ins.	ins.	%	ins.	ins.²	ins.⁴	ins.⁴	ins.	ins.	ins.³	ins.³	ins.³	ins.³	ins.
36 × 16½	260	36.24	16.555	.845	1.440	.95	5.0	31.16	76.56	17234	1021	15.00	3.65	951.1	123.3	1076	195.6	36½ × 16⅝
	230	35.88	16.475	.765	1.260	.95	5.0	31.16	67.73	14988	870.9	14.88	3.59	835.5	105.7	942.5	168.2	35⅞ × 16½
36 × 12	194	36.48	12.117	.770	1.260	.75	5.0	32.25	57.11	12103	355.4	14.56	2.49	663.6	58.7	766.8	94.7	36½ × 12½
	170	36.16	12.027	.680	1.100	.75	5.0	32.25	49.98	10470	300.6	14.47	2.45	579.1	50.0	667.0	80.7	36⅛ × 12
	150	35.84	11.972	.625	.940	.75	5.0	32.25	44.16	9012.1	250.4	14.29	2.38	502.9	41.8	580.0	67.8	35⅞ × 12
33 × 11½	152	33.50	11.565	.635	1.055	.70	5.0	29.78	44.71	8147.6	256.1	13.50	2.39	486.4	44.3	558.0	71.2	33½ × 11⅝
	130	33.10	11.510	.580	.855	.70	5.0	29.78	38.26	6699.0	201.4	13.23	2.29	404.8	35.0	465.9	56.7	33⅛ × 11½
30 × 10½	132	30.30	10.551	.615	1.000	.65	5.0	26.82	38.83	5753.1	185.0	12.17	2.18	379.7	35.1	436.7	56.4	30⅛ × 10⅞
	116	30.00	10.500	.564	.850	.65	5.0	26.82	34.13	4919.1	153.2	12.00	2.12	327.9	29.2	377.5	47.2	30 × 10½
27 × 10	114	27.28	10.070	.570	.932	.60	5.0	24.04	33.53	4080.5	149.6	11.03	2.11	299.2	29.7	342.7	47.6	27½ × 10⅛
	102	27.07	10.018	.518	.827	.60	5.0	24.04	30.01	3604.1	129.5	10.96	2.08	266.3	25.9	304.5	41.5	27⅛ × 10
	94	26.91	9.990	.490	.747	.60	5.0	24.04	27.65	3266.8	115.1	10.87	2.04	242.8	23.0	277.8	37.1	26⅞ × 10
24 × 12	160	24.92	12.264	.732	1.235	.65	5.0	20.93	47.05	4979.2	359.7	10.29	2.77	399.6	58.7	454.4	92.9	24⅝ × 12½
	120	24.31	12.088	.556	.930	.65	5.0	20.93	35.29	3635.3	254.0	10.15	2.68	299.1	42.0	336.3	66.6	24⅛ × 12⅛
	100	24.00	12.000	.468	.775	.65	5.0	20.93	29.43	2987.3	203.6	10.08	2.63	248.9	33.9	278.4	54.0	24 × 12
24 × 9	94	24.29	9.061	.516	.872	.50	5.0	21.38	27.63	2683.0	102.2	9.85	1.92	220.9	22.6	252.7	36.1	24⅛ × 9⅛
	84	24.09	9.015	.470	.772	.50	5.0	21.38	24.71	2364.3	88.3	9.78	1.89	196.3	19.6	224.1	31.4	24⅛ × 9
	76	23.91	8.985	.440	.682	.50	5.0	21.38	22.37	2096.4	76.5	9.68	1.85	175.4	17.0	200.3	27.4	23⅞ × 9
21 × 13	142	21.46	13.132	.659	1.095	.65	5.0	17.72	41.78	3403.9	386.0	9.03	3.04	317.2	58.8	356.9	92.6	21⅞ × 13½
	127	21.24	13.061	.588	.985	.65	5.0	17.72	37.38	3018.0	338.6	8.99	3.01	284.2	51.8	318.1	81.8	21½ × 13⅛
	112	21.00	13.000	.527	.865	.65	5.0	17.72	32.97	2621.4	289.7	8.92	2.96	249.7	44.6	278.3	70.5	21 × 13
21 × 8½	82	21.44	8.342	.502	.840	.50	5.0	18.61	24.12	1827.8	77.1	8.70	1.79	170.5	18.5	195.2	29.5	21⅞ × 8⅛
	73	21.24	8.295	.455	.740	.50	5.0	18.61	21.46	1600.3	66.2	8.64	1.76	150.7	16.0	172.1	25.5	21½ × 8⅛
	68	21.13	8.270	.430	.685	.50	5.0	18.61	20.02	1478.3	60.4	8.59	1.74	139.9	14.6	159.6	23.4	21⅛ × 8⅛
	62	20.99	8.240	.400	.615	.50	5.0	18.61	18.23	1326.8	53.1	8.53	1.71	126.4	12.9	144.1	20.7	21 × 8⅛
18 × 7½	66	18.40	7.592	.450	.770	.40	5.0	15.92	19.40	1096.8	53.2	7.52	1.66	119.2	14.0	136.0	22.3	18⅛ × 7⅜
	60	18.25	7.558	.416	.695	.40	5.0	15.92	17.64	984.0	47.1	7.47	1.63	107.8	12.5	122.8	19.9	18⅛ × 7⅜
	55	18.12	7.532	.390	.630	.40	5.0	15.92	16.19	889.9	42.0	7.41	1.61	98.2	11.1	111.7	17.8	18⅛ × 7⅜
	50	18.00	7.500	.358	.570	.40	5.0	15.92	14.71	800.6	37.2	7.38	1.59	89.0	9.91	100.9	15.8	18 × 7½
16 × 7	50	16.25	7.073	.380	.628	.40	5.0	14.07	14.70	655.4	34.8	6.68	1.54	80.7	9.84	91.6	15.7	16½ × 7⅛
	45	16.12	7.039	.346	.563	.40	5.0	14.07	13.24	583.3	30.5	6.64	1.52	72.4	8.66	82.0	13.8	16⅛ × 7⅛
	40	16.00	7.000	.307	.503	.40	5.0	14.07	11.77	515.5	26.5	6.62	1.50	64.4	7.58	72.7	12.1	16 × 7
14 × 6¾	45	14.33	6.820	.357	.618	.40	5.0	12.17	13.23	468.1	30.7	5.95	1.52	65.3	9.01	73.9	14.3	14⅛ × 6⅞
	38	14.12	6.776	.313	.513	.40	5.0	12.17	11.17	385.3	24.6	5.87	1.49	54.6	7.28	61.5	11.6	14⅛ × 6¾
	34	14.00	6.750	.287	.453	.40	5.0	12.17	10.00	339.2	21.3	5.83	1.46	48.5	6.30	54.5	10.1	14 × 6¾
	30	13.86	6.733	.270	.383	.40	5.0	12.17	8.81	289.6	17.5	5.73	1.41	41.8	5.21	47.1	8.38	13⅞ × 6¾
12 × 6½	36	12.24	6.565	.305	.540	.35	5.0	10.34	10.59	280.8	23.7	5.15	1.50	45.9	7.23	51.5	11.4	12¼ × 6⅝
	31	12.09	6.525	.265	.465	.35	5.0	10.34	9.12	238.4	19.8	5.11	1.47	39.4	6.07	44.0	9.60	12⅛ × 6½
	27	11.96	6.500	.240	.400	.35	5.0	10.34	7.97	204.2	16.6	5.06	1.44	34.1	5.11	38.0	8.12	11⅞ × 6½
10 × 5¾	29	10.22	5.799	.289	.500	.30	5.0	8.51	8.53	157.3	15.2	4.29	1.34	30.8	5.25	34.6	8.27	10¼ × 5⅞
	25	10.08	5.762	.252	.430	.30	5.0	8.51	7.35	133.2	12.7	4.26	1.31	26.4	4.40	29.6	6.95	10⅛ × 5¾
	21	9.90	5.750	.240	.340	.30	5.0	8.51	6.19	106.3	9.74	4.14	1.25	21.5	3.39	24.1	5.42	9¾ × 5¾
8 × 5¼	20	8.14	5.268	.248	.378	.30	5.0	6.69	5.88	69.2	8.50	3.43	1.20	17.0	3.23	19.1	5.11	8¼ × 5¼
	17	8.00	5.250	.230	.308	.30	5.0	6.69	5.00	56.4	6.72	3.36	1.16	14.1	2.56	15.8	4.09	8 × 5¼

Universal beam sections

tion. From reference to the tables it will be noted, for example, that a 14 x 6¾ in. beam may vary in weight from 30 lb. per foot to 45 lb. per foot, depending on the section chosen giving variations in depth of the beam from 13⅞ in. to 14⅜ in. and from 6¼ in. (approximately) to 6⅞ in. in breadth. The architect who will wish to take advantage of a flush soffit over a given area must accept the variation in top level, and similarly the engineer must accept the use of make-up packings if full advantage of template making, multiple drill settings and other elements of obvious economy in workshop practice are to be obtained.

In selection of columns of a common core, the advantages of seven alternative profiles in a nominal 12 in. x 12 in. column are clear, but the acceptance of dimensional variations between 12⅛ in. x 12 in. to 14⅜in. x 12 11/16 in. will be necessary.

The provision of the 'Universal' beam and its use in conjunction with the conventional British Standard section will be an advantage in many structures of the future by substituting the plain rolled 'Universal' section for the heavily plated compound joist and flange plate girder or the web plate and flange plate-type girder with their resultant high fabrication costs.

The Beam Not Ubiquitous

The name 'Universal' might be taken as implying ubiquity of use, but this is not the case. There will continue to be many occasions when the use of British Standard joist sections are both the most economical and practical solution, and indeed the type of structure which can economically be built wholly of 'Universal' beams may well be limited despite the higher efficiency of use of material forming the member. Until the prices of the new beams are known, however, it is only possible to surmise, but it is considered improbable that the basic price ton for ton will be cheaper than that of the British Standard section. Other economies resulting from the use of the new scantlings must in consequence become the deciding factor.

The large multi-storey structure with a degree of uniformity of bays will be an obvious case where the new beams can with advantage be used as will power stations, warehouses and numerous types of industrial structures, particularly where encasement is not required.

It is believed that a number of fabricators will not be equipped for cutting and ending some of the heavier new members, and in consequence the makers are making provision for these facilities to be available at the mills. The pre-ordering of material then becomes a matter of serious importance since economy can best be achieved by full design and considerable detail prior to order. This is an ideal situation seldom achieved in this country, in consequence of which we are frequently criticised for the long delays between commencement and completion of our buildings.

Achieving Full Economies

Certain of our largest contracting organisations will not nowadays be interested in tendering for a project unless every detail is in fact either finally settled or they are in a position to dictate what they are prepared to do without the employer being involved in extra costs which are seldom small. It is to be hoped that the structural requirements necessitating full economies in the use of 'Universal' beams by preplanning for final ordering of specific lengths of material will act as a leavening to the industry as a whole and so help to avoid the stigma of 'conservatism' (non-political, of course) with which we are frequently branded.

Under present arrangements after the placing of a contract, the owner, architect or consultant is frequently asked if he will accept a substitute section, usually deeper or heavier than the section designed, because of non-availability of the specified section due to a mill's rolling programmes. The simplicity with which the varying profiles of 'Universal' beams of common nominal dimension can be obtained on the new mill should contribute substantially to the elimination of this somewhat difficult situation. The complete success of the 'Universal' beam must, despite the best desire of the user, depend on the manufacturers' full appreciation of the market requirements. Rolling programmes, hitherto a mystery to the uninitiated and a source of frequent irritation to those more closely involved, must be rationalised so as to eliminate the three- and four-month intervals which frequently occur between rollings of specific British Standard sections.

Since the rolling mill producing the 'Universal' beam must essentially become as it were part of the constructional engineers' organisation, users will expect to be saved from the extras charged for material 'ex-stock.'

These new beams lend themselves excellently to welding and many exciting new types of construction will undoubtedly be developed once they are readily available.

OBITUARY

D. W. Baxter

THE death occurred on November 13 at Blairgowrie, after a short illness, of Mr. David William Baxter, formerly principal of Johnston and Baxter, architects, Dundee. He was 83. He was the designer of some of the best-known buildings in Dundee, including hospital buildings at Dundee Royal Infirmary. He was also architect of several churches in Dundee and district. He retired from active practice three years ago.

Serial Size	Wt. per ft.	Depth of Section *a*	Width of Section *b*	THICKNESS Web t_1	THICKNESS Flange t_2	Root Radius *r*	Slope inside Flange	Depth between Fillets *d*	Area of Section	Moments of Inertia About *x*—*x*	Moments of Inertia About *y*—*y*	Radius of Gyration About *x*—*x*	Radius of Gyration About *y*—*y*	Elastic Modulus About *x*—*x*	Elastic Modulus About *y*—*y*	Plastic Modulus About *x*—*x*	Plastic Modulus About *y*—*y*	NOMINAL SIZE
ins.	lbs.	ins.	ins.	ins.	ins.	ins.	%	ins.	ins.²	ins.⁴	ins.⁴	ins.	ins.	ins.³	ins.³	ins.³	ins.³	ins.
14 × 16	426	18.69	16.695	1.875	3.033	.60	0	11.42	125.25	6610.3	2359.5	7.26	4.34	707.4	282.7	869.4	434.1	18 11/16 × 16 11/16
	264	16.50	16.025	1.205	1.938	.60	0	11.42	77.63	3526.0	1331.2	6.74	4.14	427.4	166.1	502.2	253.7	16½ × 16
	202	15.63	15.750	.930	1.503	.60	0	11.42	59.39	2538.8	979.7	6.54	4.06	324.9	124.4	373.4	189.3	15⅝ × 15¾
	158	15.00	15.550	.730	1.188	.60	0	11.42	46.47	1900.6	745.0	6.40	4.00	253.4	95.8	286.1	145.5	15 × 15⅝
Column Core	320	16.81	16.710	1.890	2.093	.60	0	11.42	94.12	4141.7	1635.1	6.63	4.17	492.8	195.7	591.9	303.8	16 11/16 × 16 11/16
14 × 14½	136	14.75	14.740	.660	1.063	.60	0	11.42	39.98	1593.0	567.8	6.31	3.77	216.0	77.0	242.7	117.0	14¾ × 14¾
	119	14.50	14.650	.570	.938	.60	0	11.42	34.99	1373.1	491.8	6.26	3.75	189.4	67.1	211.0	101.8	14½ × 14½
	103	14.25	14.575	.495	.813	.60	0	11.42	30.26	1165.8	419.7	6.21	3.72	163.6	57.6	180.9	87.2	14¼ × 14⅜
	87	14.00	14.500	.420	.688	.60	0	11.42	25.56	966.9	349.7	6.15	3.70	138.1	48.2	151.4	73.0	14 × 14½
12 × 12	190	14.38	12.670	1.060	1.736	.60	0	9.71	55.86	1892.6	589.7	5.82	3.25	263.2	93.1	311.3	142.6	14¾ × 12 11/16
	161	13.88	12.515	.905	1.486	.60	0	9.71	47.38	1541.9	486.3	5.70	3.20	222.2	77.7	259.1	118.8	13⅞ × 12½
	133	13.38	12.365	.755	1.236	.60	0	9.71	39.11	1221.3	389.9	5.59	3.16	182.5	63.1	209.7	96.2	13⅜ × 12⅜
	106	12.88	12.230	.620	.986	.60	0	9.71	31.19	930.7	300.9	5.46	3.11	144.5	49.2	163.5	74.9	12⅞ × 12¼
	92	12.62	12.155	.545	.856	.60	0	9.71	27.06	788.9	256.4	5.40	3.08	125.0	42.2	140.3	64.2	12⅝ × 12⅛
	79	12.38	12.080	.470	.736	.60	0	9.71	23.22	663.1	216.4	5.34	3.05	107.1	35.8	119.2	54.4	12⅜ × 12⅛
	65	12.12	12.000	.390	.606	.60	0	9.71	19.11	533.4	174.6	5.28	3.02	88.0	29.1	97.0	44.1	12⅛ × 12
10 × 10	112	11.38	10.415	.755	1.248	.50	0	7.88	32.92	718.7	235.4	4.67	2.67	126.3	45.2	147.5	69.1	11⅜ × 10⅜
	89	10.88	10.275	.615	.998	.50	0	7.88	26.19	542.4	180.6	4.55	2.63	99.7	35.2	114.4	53.6	10⅞ × 10¼
	72	10.50	10.170	.510	.808	.50	0	7.88	21.18	420.7	141.8	4.46	2.59	80.1	27.9	90.6	42.4	10½ × 10⅛
	60	10.25	10.075	.415	.683	.50	0	7.88	17.66	343.7	116.5	4.41	2.57	67.1	23.1	75.0	35.1	10¼ × 10⅛
	49	10.00	10.000	.340	.558	.50	0	7.88	14.40	272.9	93.0	4.35	2.54	54.6	18.6	60.3	28.2	10 × 10
8 × 8	48	8.50	8.117	.405	.683	.40	0	6.33	14.11	183.7	60.9	3.61	2.08	43.2	15.0	49.0	22.8	8½ × 8⅛
	40	8.25	8.077	.365	.558	.40	0	6.33	11.76	146.3	49.0	3.53	2.04	35.5	12.14	39.8	18.5	8¼ × 8⅛
	35	8.12	8.027	.315	.493	.40	0	6.33	10.30	126.5	42.5	3.50	2.03	31.1	10.60	34.7	16.1	8⅛ × 8
	31	8.00	8.000	.288	.433	.40	0	6.33	9.12	109.7	37.0	3.47	2.01	27.4	9.24	30.4	14.0	8 × 8
6 × 6	25	6.37	6.080	.320	.454	.30	0	4.86	7.35	53.3	17.0	2.69	1.52	16.7	5.60	18.9	8.55	6⅜ × 6 1/16
	20	6.20	6.018	.258	.369	.30	0	4.86	5.93	41.9	13.4	2.66	1.50	13.5	4.46	15.1	6.79	6 3/16 × 6

Universal column sections

'What's New at the Building Exhibition?'

(*Concluded from page* 913)

First, an undercoat plaster consisting of finely powdered basic rock and clear-setting plastic cement, is applied with a laying trowel. This undercoat imparts a smooth, hard, glossy surface, on to which almost any finish can be applied. When this undercoat has been allowed to set, the ready mixed finish is applied with a trowel in the same way as an ordinary coarse sand and cement mix. Non-fading, non-crazing and non-peeling, the makers claim. One feels that a great deal more is going to be heard about this product.

Strides made in the design of scaffold fittings during the past few years are little short of phenomenal. Vast spider-like erections swiftly encompass even the largest structures with great safety. MILLS SCAFFOLD CO., LTD., Row F.426/7, reminded me again of Jodrell Bank with a large photograph of the 90 miles of scaffolding which they provided for that project.

In addition to their well-known range of scaffolding, they are exhibiting a new 'Self-Lock' telescopic prop. This prop operates from 5 ft. 6 in. up to any height required using the base unit and standard scaffolding tube. It is secured by inserting the inner tube into the outer, the inner tube being automatically clamped by a simple movement of the locking lever. The locking device cannot be released by accident. Extensive loading tests at the Civil Engineering Laboratory, Birmingham University, indicated that with tube at an overall height of 8 ft. the new prop has a safe loading of 4.1 tons. Without pins, without nuts, without threads to clog or weaken and without chains to break, simplicity with safety seems to be the keynote here.

On Stand 779, THE ARNHOLD BUILDING BRACKET CO., I found scaffolding of a different kind. A newcomer, this 'built-in' scaffold comprises patented sockets fixed permanently into the wall to give a secure anchorage for the assembly to be erected quickly, safety and without interference to traffic below. Suitable for both large and small jobs, I felt that here was ideal equipment for those builders likely to be undertaking repair work, particularly in connection with the Rent Act.

Minimised nailing and savings in timber studding are two of the several advantages obtained through the use of a new type extruded plasterboard exhibited by BELLROCK GYPSUM INDUSTRIES, LTD. (Stand K.165/166). Incorporating its own erection frame this product eliminates timber studding for fixing. The frame provides an adequate recess for thermal and acoustic fillings, thus giving the finished wall high insulation values.

Wherever a great deal of nailing has to be done the 'Holzher' pneumatic driver would be found extremely useful. Exhibited by J. K. O. CUTTERS, LTD. (Stand X 367), this equipment consists of a portable hand gun and nail-feed hopper which can be worked either by a compressor or an existing air line. The gun is held against the work, the trigger is pulled and a nail is driven home. The release of the trigger automatically feeds a fresh nail into the gun. Driving nails from 1½ in. to 2¾ in. in length into wood or similar material with a single blow, it is claimed that 60-100 nails per minute can be driven home, compared with 20 to 30 by hand. Here is a tool that is likely to make a real impression on many jobs. At present delivery is approximately four months from order.

On Stand C 50, CONCRETE, LTD., are showing a new 'Bison' hollow purlin in addition to the usual range of products. For lightweight roof decking the roof consists of these concrete purlins, which can be spaced at whatever centres are desired to receive the decking material. The most generally recommended centres are 3 ft. 4 in., 3 ft. 6 in.

The 'Arnhold' building bracket. Arnhold Building Bracket Co. (*Stand* 779 *Gal.*)

or 4 ft. In these cases a cheap decking material can be used at a cost little higher than the insulation which would have to be provided on a continuous concrete roof. Many types of decking materials can be used and amongst the most economical are strawboard and wood wool. The former can be used at 4 ft. centres to span 2 ft. 10 in. and the latter at 3 ft. 4 in. to span 2 ft. 2 in. Batten-reinforced wood wool can be used to span 4 ft. The decking is normally fixed by nailing, and a 2 in. wide 1½ in. deep fillet can be provided in the purlin top for this purpose. Alternatively, special fixing clips can be cast in the purlins. Conditions will vary with circumstances, but as a general guide it may be said that purlins can be provided, finished for decoration, at a cost of at least a third less than a continuous concrete roof pointed for decoration. Where a false ceiling of fibre-board panels is provided the inclusive cost will be rather less than that of a precast concrete roof pointed. The economy is greater on longer spans.

The minimising of handling processes must inevitably result in reduced costs. It usually follows that breakages and other forms of damage or deterioration are minimised. The bulk handling of cement is a case in point, and the increasing strength of the bulk delivery fleets of cement manufacturers is proof of the increasing popularity of this unique method of delivery. PORTASILO, LTD. (Stand G 433) feature equipment for the bulk handling of cement in a standard range of 'Portasilos' of 15, 20 and 30 tons capacity. Power is not required on site for operation of this equipment, which, incidentally, is not confined to cement handling. All granulated and powdered materials can be dealt with. These silos are loaded pneumatically from bulk cement vehicles by means of a delivery hose. Automatic weighbatching of materials is provided by a mechanised 'cement man,' a 'Pullwey,' which has a sliding counterweight giving instant adjustment against a calibrated scale.

A portable compression testing machine with a maximum capacity of 150 tons by increments of ¼ ton and weighing less than 4 cwts. with all accessories is really something. Such a machine is the new TIB/MC shown by SAMUEL DENISON AND SON, LTD. (Stand L. 183). It is a precision engineering instrument enabling tests to be carried out at constant rates of loading.

Although not strictly in the category of a 'new' product, I must say that I was impressed by the range of 'Club' clay tiles on the National Federation of Clay Industries Stand and a number of the brick and tile manufacturers. This old material is by all accounts fitting rather well into contemporary architecture as a form of cladding. Rather a nice blending of the old and the new.

The 'Aglite' Division of the BUTTERLEY CO. LTD. (Stand 746) shows 'Aglite' in its several forms. The 'Aglite' concrete floor has seven times the insulating value of one made with dense concrete. These block walls are claimed to have four times the insulating value of brick walls. A number of useful booklets are available on the stand concerning the many uses of this product. Fire resistance, freedom from cracking and the reducing of the dead-load are some of the advantages particularly noted. The latter point is a very considerable one as it leads to reduced handling costs and transport charges, with fewer breakages. In tall buildings the general reduction of dead-load also permits design economies in the use of steel and in foundations.

The time and money spent on renewing damp courses yearly must be considerable. With increasing standards of housing laid down and with the greater provision for repairs opened up by the Rent Act, one imagines that the question of eliminating damp from older properties will assume growing importance. I liked the simplified process of inserting new dampcourses in old buildings which the 'Brooks' patent machine shown on the stand of EXPANDITE LTD. uses. There are, in fact, two machines, the 'Major,' which will cut into mortar joint or brickwork to a depth of five in. The cutter is adjustable to make an insertion at any point from 1¼ in. to 5¾ in. above floor level. The 'Senior' is used mostly for cutting corners after the 'Major' has operated. Both work off household current. It is claimed that, by these machines, a new membrane can be inserted into an existing wall by two men at the rate of 60 ft. or more in eight hours. A particular point I liked is the fact that plaster is not damaged. Another advantage is that occupants are not disturbed by the operation.

GORDON H. WAGSTAFF.

BUILDING EXHIBITION

"THE BUILDER" REVIEW OF EXHIBITS

THE following are additions to notices of exhibits on show at the Building Exhibition which opened at Olympia on November 13. The last two issues of 'The Builder' contained details of other products displayed.

Audens, Limited, Audax Works, Central-avenue, West Molesey, Surrey, have on display Rollover skips—¼ yd., ½ yd. and 1 yd., and Bottom and Side Discharge skips available in three sizes—10, 14 and 18 cu. ft. Among other items exhibited are steel shuttering, scaffold tube, props, trench struts, beam clamps, trestles, etc. (Stand Z, 357.)

The main exhibit of **B.I.P. Reinforced Products, Ltd.,** Streetly, Staffs., is 'Filon,' glass fibre/polyester laminated sheeting produced by a continuous process in which a 220-ft. long machine produces a continuous sheet of accurately profiled translucent material, incorporating glass fibre and resin in measured proportions. The strength and quality of all polyester glass laminated sheets depend upon this perfect combination of the correct quantities of glass fibre and resin, also freedom from air bubbles which weaken the sheet and which can cause leaks to develop, and uniform thickness; all these factors are minutely controlled by the manufacturing process. 'Filon' can be recognised by the nylon threads which are seen to run the whole length of the sheet at half-inch intervals across them. These threads are an exclusive part of the manufacturing process. Initially it will be produced in three profiles to fit standard corrugated iron or aluminium sheets, three inch asbestos and Big 6 asbestos. In each of these profiles there will be two grades—6 oz. per sq. ft. and 8 oz. per sq. ft. As distributors' stocks throughout the country are built up, a full range of other profiles, coloured sheets and flat sheet, will become available. (Stand 653.)

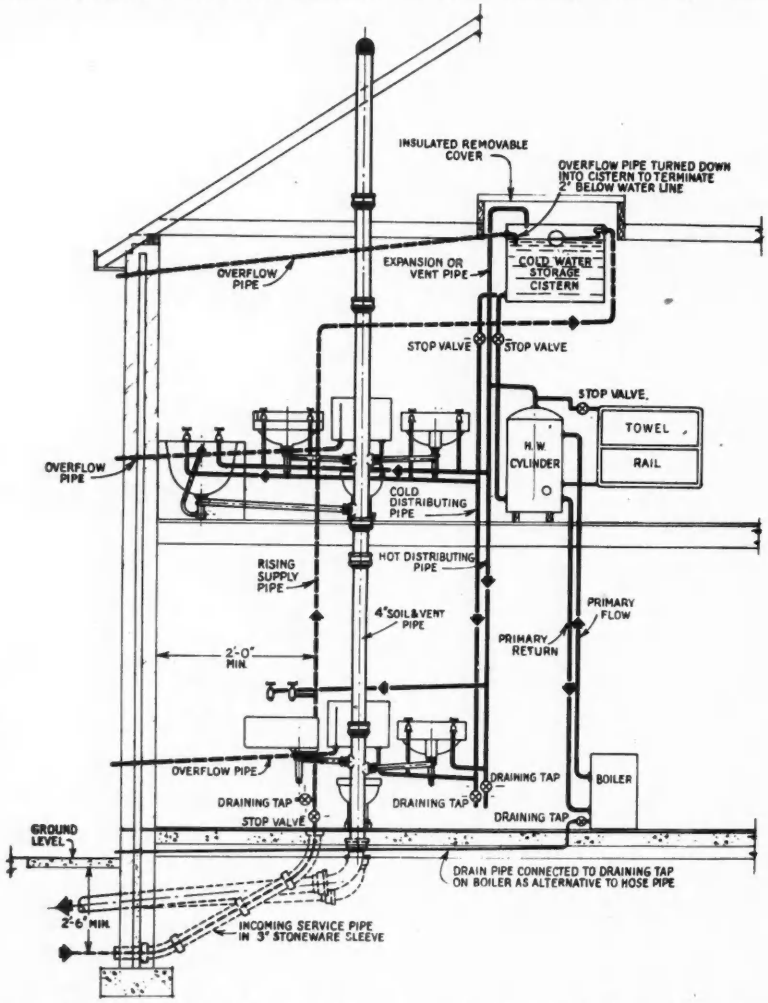
The advantages of very long rigidal corrugated aluminium sheets is shown on the stand of **The British Aluminium Co., Ltd.,** Norfolk House, St. James's-square, SW1. In their new Falkirk works are produced sheets up to 35 ft. in length. Economically the advantages of using longer sheets are considerable, the firm claims. The number of end and side laps in a given roof area is reduced and thus not only is less material required but handling and fixing costs are lowered. A film show is one of the features of this exhibit and shots are to be seen of the roll-forming corrugator at work. (Stand P, 226.)

A comprehensive range of modern heating equipment is shown by **Copperad, Ltd.,** Colnbrook, Bucks. All equipment is suitable for steam or accelerated low temperature and high temperature water systems and is made in a wide range of output. A new product shown is 'Wallstrip' skirting-board heating which allows maximum freedom in æsthetic design. No ungainly, heavy equipment is involved. There are three types: Type C, an all-purpose wallstrip giving convective heating. Type R emits a high proportion of radiant heat. Type RC is of similar construction to Type R, that is steel tubes are welded to the heavy gauge casing forming a robust, easily cleaned heating surface, but in addition is provided with inlet and outlet grilles to obtain the double advantage of both convective and radiant heat. (Stand C, 58.)

The **Department of Scientific and Industrial Research,** Charles House, 5-11, Regent-street, SW1, have on display the results of recently completed items of research of interest to the building industry. The main exhibits are: small pipe central heating, developed by the British Coal Utilisation Research Association, a new system whereby central heating could become an economic possibility for many more people. The methods of installation make it possible for the new system to be put into existing houses without structural work or even damage to decorations; the special fittings designed for its control and the ways in which the economies are made are shown.

One of the items of research work of the Building Research Station includes a survey of 72 blocks of flats and maisonettes in an attempt to find out how costs depend on certain factors. The results showed that costs can be kept down while standards are maintained, providing care is used in design. Simple repetitive design, with a minimum of different elements, and simple block plans giving a high ratio of floor area to external wall area, are examples of design economy. Examples are shown where careful design can also reduce noise nuisance by isolating stairs, lifts, chutes, etc., from living accommodation and bedrooms. (Stands 552-560, even numbers.)

A topical exhibit by the **Ministry of Housing and Local Government** is the frostproof house, and on their stands advice is given both on how to build houses which will be proof against frost, and on how to protect those already built. People today expect new houses to be protected against frost, and the exhibit shows how this can be done. The main feature is a complete plumbing unit which allows all the plumbing to be concentrated into one compact area well away from outside walls. The unit has been designed for a three-bedroomed house, and the visitor can follow visually the plumbing runs from the kitchen and cloakroom on the ground floor to the bathroom on the first floor and up to the roof. The roof space is insulated against cold, and the cold water cistern, which projects only a few inches into the loft, is protected by an insulating cover over the bedroom ceiling joists. Thus warm air is kept in, and cold air kept out. Hot, cold and waste pipes have been coloured so that they can be traced along their entire length. The unit is presented by the Ministry of Housing and Local Government, with the aid of the Ministry of Works, in consultation with the British Waterworks Association, the Building Research Station, the Institute of Plumbing, the National Federation of Building Trades Employers, and the Royal Institute of British Architects. A section of a loft shows how a cold water cistern can be made proof against frost, and also how pipes should be lagged, and the roof space insulated. There are diagrams showing the frostproof



THE FROSTPROOF HOUSE.—This compact plumbing unit has been designed by the Ministry of Housing and Local Government to show how the discomfort of freeze-ups and the expense of burst pipes can be avoided by careful planning. Pipes are as short as possible and none is on the outside or inside of external walls. There are no pipes under the eaves, and insulation of walls and loft keeps out the cold

plumbing unit incorporated in other house designs, and different types of insulating block for the inner leaves of outside cavity walls are displayed, as well as various insulating materials which can be used for preventing heat loss through the roof space. A viewing area on the stand enables visitors to see a film, 'Cold Comfort,' which shows how to frostproof a house, and what to do if a pipe bursts. Free leaflets give practical advice. (Stands 557 and 559.)

Omnia Constructions, Ltd., 121, London Wall, EC2, are exhibiting the Omnia floor which is a composite construction combining the advantages of precast and *in situ* methods. It is monolithic in character and behaves structurally like a floor slab *in situ*. It is free from cracking, spreads concentrated loads and absorbs stresses due to impact, vibration, earth tremors, blasts, etc. Omnia floors may be as much as 50 per cent. lighter than solid R.C. slabs, which reduces the load on supporting beams, walls and foundations. The floor requires no shuttering, except widely spaced props, as the Omnia Plank, together with the hollow blocks, provides this. The Plank comprises a shallow concrete base, precast to the required length in simple moulds and incorporating a reinforcement assembly. (Stand L, 187.)

Marlborough fireplace designs and hand-painted tiles are exhibited by **Packard & Ord, Ltd.,** 22, St. Giles High-street, WC2. Eleven attractive designs are shown on their double-fronted stand and several unique features make this display of particular interest. These include eight entirely new fireplace designs, a large selection from their range of hand-painted tiles on pastel glazes, hand-painted beer pull handles. (Stand 512.)

Wood flooring of all types is on exhibit at the stand of **The Philip Flooring Co., Ltd.,** 66-68, Hertford-road, Dalston, N1. Included in the display are hardwood and softwood block and strip, from finest European, Colonial and Empire timbers; factory floors in end grain paving and prime Canadian Rock Maple, strip and block. Also shown are Magnesite Joint composition flooring, laid under the new Code of Practice; oak parquetry and overlay in various designs; thermoplastic tiles and coving and a specially constructed system of springy dance floors with blueprints available. (Stand 537.)

Sussex & Dorking United Brick Companies, Graylands, Horsham, Sussex, are showing many new and improved building materials. Several ways in which traditional materials can be used for cladding are also shown. These consist of alternate panels of facing and glazed bricks, open work ceramic screens in two types, purpose-made units with direct glazing and decorative vertical tiling. (Stand F, 117.)

Bartrev Chipboard is the main exhibit by the **Vere Engineering Co., Ltd.,** 3, Vere-street, W.1. This is a high-grade board manufactured by a continuous process making it available in any length. It is suitable for many kinds of building construction, some of which are shown on the stand, including roof trusses, partitions, flooring and built-in furniture. (Stands 798 and 799.)

The stand of the **Zinc Development Association,** 34, Berkeley-square, W1, illustrates the main uses of zinc in building, which have dramatically increased in recent years. Photo-murals, panels of technical information and zinc products are arranged in three groups—sheet zinc for roofing and rain water goods, hot dip galvanising and other protective coatings, and zinc alloy die castings. The three types of zinc roofing are shown. A large section of italianised roofing is suspended above part of the stand and one wall is composed of a series of small panels showing roll cap roofing and standing seam roofing and their use on modern buildings. This section also includes a full-size mock-up of a roof and chimney showing the recommended practice for flashing details. The applications and properties of hot dip galvanising and other zinc coatings are illustrated on two walls, one of which consists of an impressive photograph of the galvanised aerial of the radio star interferometer at the Mullard Observatory, at the University of Cambridge. The fourth wall shows a wide range of zinc alloy die castings used in building. (Stand B, 28.)

IN PARLIAMENT

By Our Parliamentary Correspondent

Housing Policy Debated

'ANYTHING they can do we have done better' might, to vary the words of a popular song, have been taken by MR. HENRY BROOKE, Minister of Housing and Local Government, as his theme in answering the Opposition's censure motion on housing policy, when the debate on the Address in reply to the Queen's Speech was continued in the Commons on November 11.

For, said Mr. Brooke, since 1945 2,750,000 houses had been built, and of these 1m. had been provided by the Labour Government in their six years of administration; the remaining 1,750,000 had come from the Conservatives in a similar period, and had resulted in between 5m. and 6m. people being able to move to modern homes.

Was this achievement to be the subject of a censure motion, he asked. The Government had not waited for six years to make proposals—they took action. Their major change from the inadequate policy between 1945 and 1951 had enabled a real start to be made in slum clearance since the war. Last year 36,000 houses unfit for human habitation were closed or demolished, and their occupants rehoused.

Anti-inflation Policy

He then went on to underline what the Chancellor had said about the part which housing could play in the Government's anti-inflation policy. Pointing out that ever since they had been in power housing had accounted for between one fifth and one quarter of the total capital expenditure of the nation, he contended that this rate of building could not go on for ever. In 1951 the situation was so serious that for several years it had demanded a particularly high rate, but, although there were still serious shortages in some places, such as London and the large cities, local authorities had been finding that they had built enough to satisfy current local needs, and the number of such authorities was increasing all the time.

In many places local authorities were finding their programmes contracting because of the shortage of suitable sites. 'In those circumstances,' he proceeded, 'there is no doubt at all that we should reckon that housing can make a contribution to the Chancellor of the Exchequer's anti-inflation measures.' The pattern of housing needs throughout the country was nothing so widespread as it had been years ago. There had been allegations of all building coming to an end or grinding slowly to a standstill.

[In reply to a question on November 12, Mr. Brooke said nineteen local authorities had informed him of their decision to reduce their housing programmes. There had been reports in the Press that a number of others had taken similar decisions.]

They would continue with a large house building programme. He was taking as his aim in 1959-60 that local authorities and new town corporations in England and Wales would complete 100,000 houses. Completions in 1959 would clearly be governed by the number of starts in 1958, but he neither accepted nor proposed that they should reckon on all local authorities slowing down their programmes at the same rate. That would be entirely wrong because some of them would have a great unsatisfied need in their areas, while other areas were in sight of the end or had found they could stop building for general needs.

Local authorities should review their housing programmes. Most were already doing so, and were deciding how they would rephase these programmes in the light of the 7 per cent. Bank rate and the 6¾ per cent. interest rate from the Public Works Loans Board. This was part of the Chancellor's policy, and if the Opposition thought nothing should be done about inflation they should say so. He had sent out a circular to local authorities [see p. 901 for comment] explaining the principles which in his opinion should govern their reviews.

Private Building

Private building was much more influenced by interest rates than was building by local authorities, who mostly had a pool of housing erected in past years, much of it before the war. This meant that even with the existing high rates they could afford to continue to build as long as it was needed.

Up to the present private building had kept up strongly at a high rate in the face of interest rates which had been current this year. It might be, and no one could foresee with certainty, that building in England and Wales would be shared half and half by private builders and local authorities. He was making no prophecy. The Government were not prepared to exempt house purchase from the credit squeeze by arranging artificially low rates of interest to purchasers or offering direct grants.

Having got rid of the general needs subsidy from the public sector, it would be wrong to introduce an Exchequer general needs subsidy for the private owner.

The Minister said that he was prepared to consider proposals by local authorities to vary their schemes for making advances to house purchasers under the Housing Act, 1949, so that they might in future, like building societies, charge a variable rate of interest. He also announced that it was proposed to introduce a Bill this session to increase the borrowing limit for new town corporations. He wanted local authorities to keep in mind the needs of old people and was sending a circular to them on this matter.

The Rent Act

It was natural that some comments should be made about the Rent Act. MR. MITCHISON, who led for the Opposition, freely admitted that it was obviously too early yet to assess the full import of this legislation, but that did not prevent him from indulging in a little crystal ball gazing. Indeed, most of the old skeletons were brought out of the cupboard, carefully dusted and paraded before the House resplendent in their newly acquired aura of respectability. But it did not take them long to lose their lustre.

Mr. Mitchison did, however, reveal something of the Labour Party's intention for tenanted property. He said that they proposed that the majority of this property would be handed over to municipalities who would take the rent and pay it, or some smaller sum, either in interest on a bond or in the form of a terminable annuity to the landlord. There would be a receipt by way

of interest, and the only capital would be required for improving the housing stock of the nation.

MR. BROOKE was not the least perturbed by the stories told of the effects of the Rent Act. Taking the country as a whole he said the evidence so far available suggested that the number of persons living in decontrolled properties who would definitely have to find new accommodation before next October would be a small percentage. Meanwhile, conversions were going on all the time, and more than 200,000 new houses and flats would be finished and ready for occupation by then.

In the debate which followed, MR. GIBSON said that the building industry, particularly the employers, was worried. There were declining order books, there was difficulty in raising capital for building and there was a punitive rate of interest. Was it any wonder that the Secretary of the Bricklayers' Union had reported that he was paying out more unemployment benefit to the members of his union than he had done in any week since the war? In the building industry, it had to be remembered that it was the bricklayer who went first. If he stopped work, all the other trades were likely to stop work.

Winding up the debate, MR. JOHN MACLAY, Secretary of State for Scotland, said that the Government did not at present contemplate any deliberate reductions in the rate of tender approvals for Scotland. There would not be any specific cut in the Scottish housing programme. Completions were running at the rate of more than 31,000 houses a year. In 1958 and later years the indications were that a downward trend was expected to continue, and he expected the rundown to bring completions in 1959-60 to about 24,000 houses a year.

The Opposition motion of censure was defeated by 313 votes to 256, a Government majority of 57.

The Nash Terraces

SOME reassurance to MPs who have been expressing fears about the destruction of the Nash Terraces in Regent's Park was given in the Commons on November 14 by MR. BUTLER, Home Secretary and Lord Privy Seal.

Mr. Butler was questioned about the chances of a debate on a motion signed by 120 MPs of all parties deploring such an action. MR. JOHN DUGDALE wanted an assurance that such a discussion would be held before any 'irrevocable decision is taken to destroy these beautiful buildings.'

THE HOME SECRETARY, exercising one of his 'rare functions as Lord Privy Seal,' said that he could reassure the House on this matter. 'They are not so likely to be destroyed as public opinion imagines,' he said. He added that the Commissioners of Crown Lands wished to issue a statement—in a previous reply he said it would be before Christmas—and would like to have an opportunity of seeing any MPs who desired to meet him, as far as he had Ministerial responsibility, to hear their views without prejudicing a debate.

MR. GAITSKELL, Leader of the Opposition, asked him to make clear that there would be a Ministerial decision in the last resort, and that it would not be something left in the hands of the Commissioners.

MR. BUTLER said that there would ultimately be Ministerial responsibility. Legislation had been passed by Parliament to set up the Commissioners, and there was a desire by the Government, and it was enshrined in that legislation, to give the Commissioners the maximum autonomy.

There would be no attempt by the Government to avoid their responsibilities.

OTHER BUSINESS

Cost of Preservation

DR. BARNETT STROSS asked the Lord Privy Seal to state the total expenditure incurred in preserving the Nash houses in in Regent's Park; and if he would give, in as much detail as possible, how the money was spent, with special reference to preservation of the structure of the houses rather than to fittings for office use.

MR. BUTLER, in a written reply on November 18, stated: £1,620,958 was spent by the Ministry of Works on the 212 houses which they took over in 1945 for use as temporary Government offices. Of this about three-quarters was attributable to structural repair and redecoration, including the repair of war damage, and the remaining quarter to the adaptations necessary to make them suitable for office use. In addition, since 1942 the Crown Estate Commissioners have spent approximately £820,000 on the preservation of the Regent's Park houses (an equivalent of just over £100 a house per annum) made up as follows:—

(1) Special repairs to protect exterior of houses	£590,000
(2) Restoration of external architecture of main terraces	55,000
(3) Structural repair and partial modernisation for reletting houses for residential use ..	175,000
Total	£820,000

Metropolitan Paving Act, 1817

MR. THORNTON-KEMSLEY asked the Minister of Housing and Local Government, on November 12, if he would introduce legislation to repeal those provisions of the Metropolitan Paving Act, 1817, which enabled the London County Council to acquire land compulsorily for road improvement schemes without inquiry or right of appeal.

MR. BROOKE, in a written reply, stated.—I understand that the London County Council contemplate promoting legislation to this end in the present session.

MR. THORNTON-KEMSLEY also asked the Minister whether he was aware of the use being made by the LCC of the Act, in connection with the Holborn-Kingsway road improvement scheme, to over-ride the provisions of the development plan without public inquiry; and whether he had approved the relevant alterations to the plan.

MR. BROOKE: The Holborn-Kingsway road improvement scheme is already provided for in the development plan for the County of London which was approved by my predecessor in 1955. So far as I am aware, there is no question of any amendment to the plan being needed in connection with this scheme.

School Building in Scotland

MR. WOODBURN asked the Secretary of State for Scotland whether he estimated that Scotland's school building programme would be cut further or speeded up as a result of his proposal to re-phase the programme in Scotland while that of England remained unchanged.

MR. MACLAY, in a written reply, on November 12, stated.—Whether the Scottish school building programme will have to be re-phased by postponing some starting dates, and if so how far, will not be known until about the end of February, when the education authorities' up-to-date building programmes for the two years commencing April 1, 1958, will have been received and examined.

Building Controls

SIR ALFRED BOSSOM asked the Minister of Housing and Local Government, in view of the large number of different types of permit required before building work could be undertaken, and in view of the excessive time those took to obtain, if he would set up a committee to investigate the situation, and recommend ways in which many of those permits could be dispensed with or combined under one or two authorities, to speed up building and save money, without affecting the quality of the ultimate structure.

MR. BROOKE, in a written reply on November 12, stated.—This is a subject which has already been thoroughly considered on more than one occasion in the past, but I should be very glad to examine any further material that Sir Alfred may care to put before me.

'TRICKS IN ARCHITECTURE'

Birmingham Arts Society Meeting

SPEAKING at a meeting of the Civic Hall Arts Society on November 4, MR. A. D. JONES, director of the Birmingham School of Architecture, said that the only way to create a great modern style of architecture was to free it from tricks and insincerity. 'Gimmicks, such as rubber garden walls, houses perched on stilts, and huge glass windows, are not good foundations for a new type of building,' he said.

This kind of architecture, so prevalent in this country and the United States, was influencing architecture abroad through articles in what he described as the 'glossies.' But he praised Britain's new school buildings, which were, he said, the best in the world.

Mr. Jones disclosed that his house was unaffected by the trends he described. He lives in a thatched cottage!

PERSONAL COLUMN

Acrow Engineers (Export), Ltd., announce that MR. H. C. STEBBENS has been appointed managing director of the company. He is also a director of Acrow (Iraq), Ltd., and the Acrow subsidiary, Teles Smith, Ltd.

MR. R. C. DAVIES, general works manager of the Dunlopillo division of the Dunlop Rubber Co., has been appointed director of its cushioning development, and will be responsible for the development of new materials and new processes of manufacture. He will be succeeded by MR. P. H. F. WALLIS, who, as general works manager of the division, will be responsible for production and technical matters at the factories in Liverpool and South Wales. MR. F. C. JENNINGS becomes manager, cushioning development laboratory.

Managing Building Projects

ARCHITECT AND CONTRACTOR

THE final meeting in the series, 'Managing Building Projects,' organised by the LCC School of Building, Brixton, and held at the Building Centre, took place on November 13 and dealt with the relationship between the architect and the contractor. Mr. A. N. GODDARD, deputising for his principal, Mr. D. A. G. Reid, presided. The chief speakers were Mr. Philip Bennett, FRIBA, giving the architect's point of view, and Mr. A. J. Hill, BSc, MICE, the contractor's.

MR. BENNETT said that in theory everybody supported the idea that a full bill of quantities should be prepared and competitive tenders obtained for a fixed price, and that when the building started everything was ready in the first instance. In practice that did not necessarily mean economical building, particularly where you were dealing with commercial or industrial enterprises and where a lot of factors entered into the case besides the actual work on the site, such as loss of interest on the capital invested, loss of production due to the building not being completed to time, and so on.

An overriding factor in such cases, when the contractor was being selected, was the ability of the contractor to organise the work. Architects might choose what might otherwise be considered an expensive type of contractor because they knew he would organise the contract properly. In such a case it was unlikely that the architect would have a tender list of more than about three firms. That sort of building work did not lend itself to firm tendering. It was so complex and so tied up with the client's costing requirements that a firm price tender was not a practical proposition.

Mr. Bennett said his firm had frequently used contracts based on an approximate bill of quantities. These were sufficiently accurate to give the contractor a fair idea of the size of the work involved in each trade or operation. This system had proved extremely useful when working for a developer, when they had found that they could not give any formal instructions until after the date on which they had obtained town planning approval for a set of rudimentary sketch plans. The client then bought the site and instructed you to start building the following day. You could usually start building in about two months' time in practice, provided you were very careful in selecting your contractor and using the one who had previously done the best work for your organisation. In such a case there was a mutual confidence between architect and contractor.

Cheaper Building

He had found it rather disappointing at times to give the tendering contractors a full bill of quantities because the lowest tender had got the contract, but it did not necessarily mean quicker or better building, although it might mean cheaper building.

Having consulted your contractor over this period, the next point was preparing information for the contractor and the contract. As far as his firm were concerned the first thing they came to was the nominated sub-contractors. His firm had nominated sub-contractors for a variety of reasons. For instance, to obtain certain items in short supply, eg, lifts, where they found the only solution to the problem was to order very early on. This was a nice simple item that one could obtain without any drawings.

Then there were certain finishes. The finest finishes in building, such as marble, could not be done by any main contractor. There the requirements were such that nomination of a sub-contractor was the only satisfactory solution.

For engineering services for smaller buildings it was best for the architect to deal direct with a sub-contractor. But for bigger contracts a different procedure should be adopted, particularly for those where a high speed was demanded and the bill of quantities had been prepared on an approximate basis. Then it was best for the architect to hand over this task to the general contractor. In many cases this was more important than giving him drawings.

But having given the contractor whatever information was necessary to start the contract, it was important for the architect to remember that it was his responsibility to run the contract. There was some difficulty at times between the architect and the main contractor, and between the sub-contractor and the architect. He thought the best solution to this problem was to leave it in the hands of the main contractor.

The Contractor's Pigeon

There was a depressingly large number of people in the building industry who told the architect, 'He is your sub-contractor, you deal with him.' The architect's answer should be, 'It is your pigeon, you are running the contract.' Mr. Bennett thought the architect should stick very strongly to that position.

On the question of issuing instructions to the contractor, Mr. Bennett said architects should remember that the contractor was entitled to instructions on any point on which the architect could offer guidance. The first thing the architect must do was to tell the contractor what his position was and the architect must tell the client of the financial implications of his failure to decide on something. The client was entitled to make up his mind as he liked, provided he understood the financial implications of what he was doing. There were cases, particularly in industrial work, where the decision on a special type of plant or layout might have to be delayed if the building was to be of the slightest value, and in such cases the architect must bear with the client, but the client must understand that he would have to pay for these delays.

Regarding the final account, if you were to treat the contractor with equity he must have a fair contractual answer and you must interpret the contract equally for either side. But the architect did not have to be too sorry for the contractor, eg., if he had encountered a lot of bad weather during the progress of the job. There were certain things which must be accepted as contractual risks.

MR. HILL began his remarks by observing that he was not a traditionalist: he did not believe that the only things in building that had been done decently had been done only before the war. A lot of good jobs were being done today by a lot of very fine people in the industry. But under the conditions in the industry today we should all ask ourselves whether everything was being done as well as it should be done. We should try to find out the proper ways of doing things. The job of the industry was to serve the client. He felt there was a general impression among people in the industry that more could be done and that better things could be done.

Speed and Economy

He did not think the quality of building was part of the discussion on building project management, but as far as quality of building was concerned this country was not badly off compared with other countries, but greater speed and economy should receive more attention. It was in the field of management that we could obtain improvements in these respects. Building work to-day involved more specialist trades than in the past, more intricate operations, it had much more mechanical installation and construction and many more specialist firms had entered the realm of sub-contracting.

Before the war there was a lot of speedy and successful work done, but the reason why we did not have so much speed and why we had more difficulties today was that in the pre-war days there was under-employment in the industry, and this was the driving force which tended to overcome difficulties. Today there was no such thing as under-employment and there was, perhaps, no longer that stimulant to give the client what he wanted when he wanted it.

Then Mr. Hill made some suggestions for the improvement of ways of tackling the building job. He expressed the opinion that there were many contractors tendering for jobs where the proportion of nominated sub-contract work was as high as 90 per cent. As a result of that did we have contractors who had scraped the barrel in putting in their tender, so that the quality of the work was likely to be lower than it should be?

Did we have jobs where the work was not planned properly and did the architect always have sufficient information when the job was tendered for? Were there jobs not sufficiently well planned, where the accommodation of services was left to a later stage in the work, where even the ceiling finishes were lower than they should be before the job started?

Did contractors have men in charge of jobs who were either inadequate or, owing to preoccupation with many details, unable to lift their heads and look at the job as a whole?

Although he was not suggesting these things happened on every job, they did happen. It was worth while the industry trying to find ways of doing better.

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The architect should examine the position to see whether he did produce sufficient information for the contractor, whether he had sufficient appreciation of the practical methods of the contractor and whether he put sufficient emphasis on speed and the duration of the job. He (Mr. Hill) wondered whether architects really got close to the man on the job and showed some appreciation of his efforts. He knew an architect who at a critical point just before a job was about to be finished persuaded his client to spend some money on having a party for the men on the job. This helped to achieve the team spirit.

Did the contractor satisfy himself that when he took on a job he was taking on the whole job? Did he look at a new job with the thought that he would make an even better job of it than the last one? Did he have a chart on the wall of his office showing when the job should finish? Did the contractor create a happy and purposeful atmosphere for his men on the job, so that everybody knew exactly what his job was?

Mr. Hill suggested that contractors should endeavour to keep abreast of technical developments in the industry. For instance, there had been a great change in recent years in the amount of concrete work carried out by contractors. Less was now done by sub-contractors than in the past.

Could contractors be clear in their hearts that they had done sufficient for the men in charge of their work, whether they had had the right men in charge and whether these men had been given sufficient opportunity to do their job as it should be done? He thought there must be more opportunities for well-educated men and the young men on building jobs; they must be given the opportunity to extend their knowledge so that they would be capable of looking after the whole contract and nothing less.

The industry needed something of an effort to re-integrate itself. Many building firms and many architects were making quite a big move in that direction, but by and large there was still much more that could be done to benefit all sections of the industry.

Discussion

Answering a question from a member of the audience, MR. BENNETT said there was a great deal to be said for the employment of architects in the offices of large building contractors at some stage in the architect's career. He himself in that way had gained a valuable insight into the working of a contractor's organisation and it would be valuable for architectural students to take such jobs in their holidays. As for qualified architects, if the professional point of view were forgotten for a moment, he thought they would often find a satisfactory place in a contractor's organisation and it might be helpful if certain people could move from one kind of office to another in the course of their career. But he thought this idea needed to be introduced with care.

MR. HILL took the view that anyone who wanted to take any step towards the better integration of the industry should be allowed to do so. He thought that if some architectural firms did not take this step they would find other architects who would. He wondered whether contractors should not consider taking more responsibility for the detailed information needed for a job. In that connection the employment of an architect on a contractor's staff would be appropriate.

Replying to MR. CONNOR (builder), MR. BENNETT said the answer to the question as to whether more economy in building costs could be achieved by the contractor receiving detailed information earlier was that it was a matter of the economics of the job as a whole. In industrial and commercial work speed and time were particularly important, because delays might mean more ground rent was having to be paid and that the start of production was delayed. He had not found a terrific amount of advance detailing was necessary for fast building. It made a difference of only a few weeks in a year's work.

THE CHAIRMAN, quoting a case where the financial director of a client firm was surprised to hear at a site meeting an architect being, as he thought, somewhat dictatorial in regard to the method of building, asked how far the architect should discuss with the contractor matters which seemed to be essentially the province of the contractor.

MR. BENNETT thought that on the site the contractor should be the man to organise the running of the contract and the architect should not interfere. He should give the nominated sub-contractors over to the care of the main contractor and leave the rest to him.

Initiative on the Site

MR. HILL agreed and said the architect must give contractors the opportunity to take more initiative on the site. He suggested that instead of every detail being written into the bill of quantities, the main contractors should get their own quantities for the nominated work from their own specialist sub-contractors.

MR. BURCHELL (architect) asked a question about subsidiaries of sub-contractors tendering separately for work in the later stages of a job and the effect on the client of being told that the work would cost more than first estimated.

MR. BENNETT replied that his firm had only partially solved the problem by telling the client simply that delays were costing him money.

MR. HILL said the architect should have been informed by the specialist firms of their intention to bring in a subsidiary. The architect should make quite clear the sort of firm he wanted to do the job.

Answering a question about negotiated contracts, MR. BENNETT said there was a tendency for this practice to increase. This often happened because a firm was carrying out work identical with that done by them on the same site recently. Negotiation had advantages where someone was already in occupation of the site and you were not in a hurry to start building. It needed to be treated with great care, but as long as most of the work was competitive you could check on prices.

The fact that the specification seemed to be going out of use in favour of the bill of quantities was regretted by one speaker, and MR. BENNETT agreed that the specification, properly prepared, provided a lot of useful information. He thought the bill of quantities was one of the most useless things produced in recent years. The specification could be brought in far more probably why it was not now generally prepared was that all its details were in the bill of quantities, but the latter did not give information about where all the things measured up were.

On the other hand, replying to another comment, MR. BENNETT said the bill of quantities had solved the problem of competitive tendering in a way no other country had succeeded in solving it.

SUCCESSFUL WEEKEND MANAGEMENT COURSE

Eastern Federation's Venture

From a Correspondent

BECAUSE of the difficulty in booking a sufficient number of weekends at Adult Educational Centres for the steadily growing management training programme, the Eastern Federation of Building Trades Employers selected Westcliff Hotel, Clacton-on-Sea, as the venue for its weekend management course from November 1 to 3.

The seventh course in the 1957 programme was devoted to a study of the principles of management, the organisation of contracts, mechanisation, work study and building contract law. It was attended by 40 principals and managers and a high level was maintained throughout. The speakers included Mr. N. S. Farrow, MBE (senior vice-president, LMBA), Mr. R. F. Mansell (managing director, R. Mansell, Ltd., Croydon), Mr. K. C. Symons (Building Advisory Service), Mr. H. G. Vallings (Building Research Station) and the director (Mr. R. W. Porter, MBE).

In a debate which was included in the programme a substantial majority voted against the proposition that 'The division of the management function between architect and builder lowers efficiency.'

Stimulating lectures, lively discussion, a most comfortable hotel and invigorating North Sea air all contributed to a most profitable and enjoyable weekend.

The notable success of courses for principals of firms has resulted in plans being made for similar courses to be included in next year's programme.

DESIGN OF NEW ESTATES

Coal Delivery Plea

SPEAKING at the National Housing and Town Planning Conference at Harrogate recently, MR. J. S. WILLIAMS, Director of the Coal Utilisation Council, made a strong plea that the design of new housing estates should enable coal deliveries to be made with the least possible carry. He supported the proposal put forward in a paper by Mr. Clifford Culpin, FRIBA, that the American 'Radburn Scheme' should be adopted more widely in this country. This form of estate planning enabled coal lorries and refuse vehicles to approach the back entrance of each house, thus reducing the carrying of difficult loads to a minimum.

Mr. Williams went on to say that, in spite of the advent of atomic power, it would be necessary to build homes planned for the use of solid fuel for generations to come.

LMBA

The Coming of Competition

SPEAKING at a meeting of the Northern Area of the LMBA in Hendon recently, the president of the LMBA, MR. W. KIRBY LAING, said that builders had received with mixed feelings the announcement by the Chancellor of the Exchequer of the proposed curtailment of parts of the development programme. As responsible citizens they had to admit that the steps being taken indicated a realistic attempt to curtail the spiral of inflation. On the other hand, as builders they found themselves faced with a possible reduction of their activities.

The reduction in housebuilding, said Mr. Laing, and the slowing down of the programme of atomic power projects must reflect themselves before very long in the industry as a whole. 'This means that we shall all be faced with a period of increased competition, and that is something to which the majority of us are not used. Those of us here to-day who are 40 or less have never been in business during a period of competition. The whole of our working lives has been spent during a time when industry has been fully employed, and when our industry in particular has been over-employed.

'Competition means that we have to find ways and means of improving the service we offer to our clients,' Mr. Laing continued, 'and those of us who have been spending the years since the war educating ourselves and our employees in management techniques and new methods are going to find that the effort has been well worth while. Those who have not may find this period of competition difficult to face. Happily, we have a short respite ahead of us, for the altered conditions in our industry are not likely to come before the middle of next year. If we are wise we shall use these next few months in looking into our organisation and improving our efficiency.'

The chairman of the Area, Mr. A. T. Fairhead, presided.

HOUSING PROGRESS REPORT

Figures for Third Quarter, 1957

THE Housing Progress Reports presented to Parliament as White Papers* by the Minister of Housing and Local Government and the Secretary of State for Scotland show, as briefly reported in *The Builder*, of November 8, that the number of permanent houses completed in Great Britain during September was 24,129 compared with 25,667 in September, 1956.

In the first nine months of 1957, 224,316 permanent houses were completed compared with 218,779 in the same period of 1956.

Detailed figures at the end of September were:

PERMANENT HOUSES AND FLATS COMPLETED

	Great Britain			England and Wales		
	Post-war total to Sept. 30 1957	*Completions in September*	*Completions in 1957 to Sept. 30*	*Post-war total to Sept. 30 1957*	*Completions in September*	*Completions in 1957 to Sept. 30*
By Public Authorities						
Local authorities†	1,955,871	12,535	123,828	1,676,319	10,333	103,840
Housing associations ...	41,471	152	1,634	40,176	140	1,571
Government departments	68,154	474	5,381	61,271	437	4,939
Total ...	2,065,496	13,161	130,843	1,777,766	10,910	110,350
By Private Builders ...	699,695	10,968	93,473	675,272	10,496	90,956
Total ...	2,765,191	24,129	224,316	2,453,038	21,406	201,306

PERMANENT HOUSES AND FLATS UNDER CONSTRUCTION

	Great Britain			England and Wales		
	Under construction at Sept. 30 1957	*Under construction at June 30 1957*	*Under construction at Mar. 31 1957*	*Under construction at Sept. 30 1957*	*Under construction at June 30 1957*	*Under construction at Mar. 31 1957*
By Public Authorities						
Local authorities†	160,873	160,468	161,164	127,625	128,540	128,927
Housing associations ...	1,215	1,235	1,636	1,155	1,164	1,533
Government departments...	4,639	5,053	6,055	4,162	4,582	5,634
Total ...	166,727	166,756	168,855	132,942	134,286	136,094
By Private Builders ...	90,081	89,135	84,483	86,216	85,409	81,034
Total	256,808	255,891	253,338	219,158	219,695	217,128

CLEARANCE OF UNFIT AND OTHER HOUSES: ENGLAND AND WALES

	Third quarter 1957	*First half 1957*	*1956*	*Total since April 1, 1945*
Number of Houses:				
In clearance areas submitted	10,131	19,678	44,470	—
In clearance orders confirmed	3,689	5,430	6,658	24,142
In compulsory purchase orders confirmed	10,092	12,756	18,864	63,939
Demolished or closed	‡	20,533	34,852	177,422
Number of Persons:				
In clearance areas submitted	31,868	59,744	137,677	—
In clearance orders confirmed	10,024	13,988	18,133	66,461
In compulsory purchase orders confirmed	29,630	38,725	56,981	203,342
Moved from houses demolished or closed	‡	68,009	108,384	561,048

* Cmd. 284 Housing Return for England and Wales, H.M. Stationery Office, price 6d. Post free 8d.
* Cmd. 285 Housing Return for Scotland, H.M. Stationery Office, price 1s. 3d. Post-free 1s. 5d.
† In Scotland includes houses built or being built by Scottish Special Housing Association.
‡ Not yet available.

THE SLIDING SCALE AGREEMENT

NJC Agrees to Adjustment

THE National Joint Council for the Building Industry has agreed to the adjustment of the relevant Rule to take account of the Government's revised index of retail prices. A statement issued by the NJC on the subject is as follows:

The Sliding Scale Clause in the National Joint Agreement is based on the 'Index of Retail Prices' compiled by the Ministry of Labour and National Service, the index figures being published each month in the *Ministry of Labour Gazette*.

Adjustment of Rule 11(b)(i) has been rendered necessary by the introduction by the Government of the current Retail Prices Index in substitution for the Interim Index which was published from June, 1947, to January, 1957. The relationship of the present Index to the former Interim Index was made clear by parallel publication of the two indices during 1956.

At its meeting on October 30, the Council was advised that the National parties, having taken into account the relationship between the two indices, would approve action to adjust the Rule, taking the proportion of three points (Interim Index) to correspond to two points (new Index). Exercising its powers under Clause 5(e) of its Constitution, the Council has therefore decided to re-word Rule 11(b)(i) as follows:—

Rule 11(b)(i)

'(1) At each Statutory Meeting the Council shall ascertain from the figures published by the Ministry of Labour in each of the antecedent 12 months the average Retail Prices Index figure for that antecedent period. A Grade A standard rate for craftsmen of 4s. 6d. per hour is taken to correspond to a Retail Price Index-range of 100 and up to, but not including, 102 points. Each two-point interval, up or down, from that index-range shall correspond to ½d. per hour, up or down, in the Grade A standard rate. For example:—

98 and up to, but not including, 100—½d. lower

102 and up to, but not including, 104—½d. higher

and so on, with ½d. difference at each two-point interval, up or down, in the index-range.

Having ascertained the average index figure as above, the Council shall make a decision adjusting the current Grade A standard rate accordingly.'

Present Rule 11(b)(i)(3) to become 11(b)(i)(2).

Housing Act, 1957

The Ministry of Housing and Local Government have issued a White Paper on the Housing Act, 1957 (HMSO, price 1s. 9d.) containing tables of comparison showing (1) the mode in which earlier enactments are dealt with by the Act and (2) the sections of the Act and corresponding provisions in earlier Acts. At the same time the Ministry have also issued the Housing (Prescribed Forms) Regulations, 1957 (SI 1957 No. 1842, HMSO price, 1s. 6d.), which come into operation on December 1 next.

The Builder

CURRENT PRICES OF MATERIALS

THE information given on these pages has been specially compiled for *The Builder* and is copyright. It is the intention that the details given should indicate fair average prices of materials, not necessarily the highest or the lowest. The prices apply to large quantities of materials loaded at works, delivered at London Stations or at site in London Area as stated. Prices for smaller quantities ex merchant's warehouse will necessarily be higher so as to include the stocking and handling costs involved. Due to the exceptional circumstances now prevailing it is recommended that the prices of materials should be confirmed by inquiry from suppliers and merchants.

AGGREGATES AND SAND

Delivered site in full lorry loads. Average of prices for Boroughs of Westminster, Paddington, Holborn and St. Pancras.

		£ s. d.
Pit Ballast	per yd.	1 7 1
Pit Sand	,,	1 4 6
Washed Sand	,,	1 7 8
¾ in. Shingle	,,	1 4 0
¾ in. Broken Brick	,,	1 0 9
Pan Breeze	,,	16 9
Fine or Coarse Foamed Slag Aggregate	per ton	3 5 0

2 yds. of fine and 2.6 yds. of coarse per ton.

CEMENT, etc.

Including non-returnable jute sacks or paper bags.

		£ s. d.
Best British Portland Cement. Standard Specification delivered Charing Cross area.		
6-ton loads and upwards, site	per ton	5 12 0
1 to 6 tons, site	,,	6 4 0
Rapid Hardening Cement in 6-ton loads and upwards to site	,,	6 2 6
1 to 6 tons do. site	,,	6 14 6
Aquacrete Water Repellent Cement. 32s. 6d. per ton on ordinary cement prices.		
Sulphate Resisting Cement. 32s. 6d. per ton on ordinary cement prices.		
Red, Buff or Khaki Colorcrete in 6-ton lots	,,	8 12 0
Other colours according to colour.		
In 4-ton lots from 310s. 0d. to 780s. 0d. per ton.		
White Portland Cement	,,	13 17 6
Under 1 ton	per cwt.	16 11
417 Cement (Ultra Rapid Hardening) in 6-ton lots and upwards	per ton	7 4 6
Super Cement (Waterproof), 32s. 6d. per ton above Portland Cement.		
Cullamix Tyrolean Finish, £11 10s. 0d. to £14 5s. 0d. (1-ton loads and upwards).		
Lightning and Ciment Fondu Brands High Aluminous cement, 6-ton lots and up	,,	15 14 6
Stourbridge Fireclay, 6-ton loads at Railway Depot, London	,,	6 17 6
Moler Mortar Powder for Flue Bricks (London sites)	per cwt.	1 8 6

BRICKS

		£ s. d.
Full Loads.		
First Hard Stocks	per 1,000	13 14 6
Second Hard Stocks	,,	12 13 6
Mild Stocks (Kiln Burnt)	,,	9 4 0
Mild Stocks	,,	8 19 0
All loaded free into lorry at the works. The question of haulage is still very difficult and prices must be obtained from job to job.		
2⅝ in. Nominal Fletton Bricks to sites in W.C.		
District Commons	,,	5 18 0
Cellular do.	,,	5 18 0
Keyed do.	,,	6 0 0
Rustics	,,	7 10 0
Cellular Rustics	,,	7 10 0
Single Bullnose Commons	,,	7 12 6
Sandfaced	,,	8 10 0
Tuscans	,,	9 5 0
Saxons	,,	9 13 0
Golden Buffs	,,	10 0 0
Dapple Light	,,	10 7 6
Best Blue Pressed Staffs (London Stations)	,,	29 15 6
,, Bullnose (London Stations)	,,	30 9 6
Blue Wire Cuts (London Stations)	,,	26 15 6
Midhurst Lime Bricks (London sites)	,,	10 15 6
Uxbridge Whites (London sites)	,,	10 2 0
Special Purpose Sandlime Bricks (London sites)	,,	7 18 6
2½ in. Best Stourbridge Fire Bricks (London Stations)	,,	29 9 9
3 in. do. (London Stations)	,,	35 7 9
2½ in. Moler Flue Bricks (London sites)	,,	35 0 0
2⅝ in. Machine-made Sandfaced Red Facings (London sites)	,,	15 18 6
2⅝ in. Machine-made Multi Red Facings (London sites)	,,	16 3 6
2⅝ in. Hand-made Sandfaced Red Facings (London sites)	,,	16 3 6
2⅝ in. Hand-made Sandfaced Multi-Colour Facings (London sites)	per 1,000	16 18 6
Hand-made Sandfaced Cherry Red Facings, Berkshire district (London sites)	,,	18 14 0
Hand-made Sandfaced Multi-Colour Facings. Berkshire district (London sites)	,,	18 14 0
Rubber Bricks for gauged arches (London sites)	,,	42 17 6
2⅝ in. Surrey Clamp Burnt Multi Stock Facings (London sites)	,,	14 4 0
2⅝ in. Surrey Kiln Burnt Multi Stock Facings (London sites)	,,	15 16 0
Glazed Bricks (London sites), White, Ivory, Brown—		
Stretchers	,,	64 0 0
Headers	,,	63 0 0
Quoins, Bullnose and 4½ in. Flats	,,	80 0 0
Double Stretchers	,,	85 0 0
Double Headers	,,	77 10 0
One side and two ends	,,	87 0 0
Two sides and one end	,,	89 10 0
Splays and Squints	,,	83 0 0

Cream and Buff £3 extra over White. Other colours, hard glaze, £8 10s. 0d. extra over White. All above prices plus 32½% for Best quality and plus 32½% less 10% for Second quality.

PARTITION SLABS, etc.

Delivered Central London Area. (W.C. District.)

	Minimum lorry loads		£ s. d.
Hollow Clay Partition Blocks (Keyed)			
*2 in.	140 yds.	per yd. sup.	4 5
*2½ in.	140 yds.	,,	4 8
*3 in. (3 cavity)	120 yds.	,,	5 5
Building Blocks (Keyed)			
*3 in. (6 cavity)	110 yds.	,,	5 7
*4 in. (6 cavity)	95 yds.	,,	6 10
6 in. (8¾ in. × 5⅝ in.)	1,250 blocks	per 1,000	26 18 0

*Half blocks at no extra charge.

Clinker Concrete			
2 in.	100 yds.	per yd. sup.	3 9
2½ in.	85 yds.	,,	4 4
3 in.	75 yds.	,,	5 3
4 in.	55 yds.	,,	6 5
Cranham			
2 in.		,,	6 9
2½ in.		,,	7 5
3 in.		,,	8 9
4 in.		,,	10 9
4¼ in. Load bearing quality		,,	11 10
Moler Partition Blocks			
2 in.	150 yds.	,,	15 0
2½ in.	120 yds.	,,	15 6
3 in.	100 yds.	,,	16 0
4 in.	90 yds.	,,	19 0
Lightweight Concrete Building and Partition Blocks of Various Sources of Manufacture			
2 in.	100 yds.	,,	5 8
2½ in.	80 yds.	,,	6 9
3 in.	65 yds.	,,	7 11
4 in.	50 yds.	,,	9 4
4½ in.	44 yds.	,,	9 11
6 in.	33 yds.	,,	13 5
Thermalite-Ytong Partition Blocks			
2½ in.	144 yds.	,,	7 0
Thermalite-Ytong Loadbearing Insulating Blocks			
3 in.	120 yds.	,,	8 5
4 in.	90 yds.	,,	11 0
5 in.	72 yds.	,,	13 9
6 in.	60 yds.	,,	16 6
8½ in.	42 yds.	,,	1 3 8
Floor Blocks and Filler Tiles			
3 in. Floor Blocks 12 in. by 12 in. delivered in full lorry-loads		per 1,000	34 1 0
4 in. do		,,	36 10 0
5 in. do.		,,	43 15 0
6 in. do.		,,	49 19 0
7 in. do.		,,	61 8 0
8 in. do.		,,	71 19 0
12″ × 3″ × ⅝″ Filler Tiles in multiples of 10 tiles		per 1,000 multiples	42 15 0
12″ × 4″ × ⅝″ do. do.			73 15 0

STONEWARE DRAIN PIPES, etc.

The following are the percentages to be added to the Revised Standard List (Nov., 1956) prices delivered London Area.

Delivered ex Merchants Wharf or Depot or Manufacturers Works.

	Over 2 tons	Over 100 pieces Under 2 tons	Under 100 pieces Under 2 tons
Best Quality	−2½%	+15%	+22½%
BSS Best do.	+10% −2½%	+10% +15%	+10% +22½%
Tested Quality	+37½% −2½%	+37½% +15%	+37½% +22½%
BSS Tested do.	+47½% −2½%	+47½% +15%	+47½% +22½%

STONEWARE DRAIN PIPES, etc.—*continued*

	£	s.	d.
3 in. Land Drain Pipes (in 12 in. lengths) ... per 1,000	11	10	6
4 in. do. ... ... ,,	15	3	6
6 in. do. ... ... ,,	31	9	0
9 in. do. ... ... ,,	59	13	0

DAMP COURSE

Hessian base bitumen 7 lb. per yd. sup. in 24 ft. rolls cut to wall widths in lots of £6 value and over delivered London area ... ... per yd. sup.	3		5½
Asbestos base ditto 7 lb. per yd. sup. do. do. ,,	5		3
Lead lined bitumen ditto 9¼ lb. per yd. sup. do. ,,	12		2
18 in. × 9 in. British damp course slates ... ... per 1,000	43	8	11
14 in. × 9 in. do. do. ... ... ,,	32	8	2
9 in. × 9 in. do. do. ... ... ,,	18	18	9
18 in. × 4½ in. do. do. ... ... ,,	19	19	9
14 in. × 4½ in. do. do. ... ... ,,	15	18	3
9 in. × 4½ in. do. do. ... ... ,,	10	14	3

STONE

Bath Stone—			
Monks Park ... ... per ft. cube		9	4
St. Aldhelm Box Ground ... ... ,,		10	7
Delivered in railway trucks at South Lambeth B.R. Western Region.			
Doulting Stone Random Blocks. Delivered London area ,,		9	2
Beer Stone. Delivered London area ... ... ,,		8	9
Portland Stone—			
Brown Whitbed in random blocks, 20 ft. average delivered in railway trucks at Nine Elms, B.R. Southern Region ... ... ,,		8	8
Yorkshire Stone—Blue Robin Hood Quality. Delivered to site London in 6-ton lots.			
9 in. × 3 in. Rubbed, weathered, throated and stooled cills ... ... per ft. cube	4	1	9
12 in. × 6 in. do. do. ... ... ,,	2	18	3
12 in. × 3 in. Plain coping, twice throated ... ,,	2	5	3
12 in. × 3 in. Weathered and twice throated coping ,,	3	0	3
14 in. × 6 in. do. do. ... ... ,,	2	14	3
4½ in. × 9 in. Plinth rubbed on top and face ... ,,	2	8	6
3 in. sawn two sides Slabs, random sizes ... ... per ft. sup.		8	8
Templates and Cover Stones, 3 in., 4 in. and 6 in. thick, edges coped for rendered brickwork ... per ft. cube	1	9	9
do. do. fair one edge for fair faced brickwork ... ... ,,	1	15	3
Hard York—			
12 in. × 2 in. Square Steps, rubbed on top and edge per ft. run		10	6
14 in. × 3 in. Round-nosed Steps, rubbed on top and front ... ... per ft. cube	2	15	6
12 in. × 6 in. Plain Steps, rubbed top and front ,,	2	8	6
2 in. Rubbed and Jointed Paving, given sizes ... per ft. sup.		9	9
2 in. Sawn Paving, edges squared, in random sizes per yd. sup.	3	8	6

TILES AND PANTILES

Delivered London area by road in 6 tons or over per 1,000			
Machine-made Pantiles and French pattern Tiles from Lincolnshire district	29	19	0
Hand-made Pantiles Berkshire district	55	18	0
Hand-made Double Roman Bridgwater district	60	11	6
Hand-made 10½ × 6½ tiles Berkshire district	15	9	0
Machine-made 10½ × 6½ Staffordshire district	14	13	6
Hand-made Hip and Valley tiles per doz.	1	11	3
Machine-made Hip and Valley tiles do.	1	9	6
Concrete tiles 10½ × 6½	8	10	0
do. Interlocking (49S)	19	16	6

NOTE.—Breakage in transit, purchasers' responsibility.

SLATES

First-quality Slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.			
24 × 12	143	15	10
22 × 12	116	17	4
22 × 11	105	10	10
20 × 12	99	0	1
20 × 10	94	16	9
18 × 10	65	16	9
18 × 9	57	14	0
16 × 10	51	17	0
16 × 8	40	11	9

NOTE.—Breakage in transit, purchasers' responsibility.

TIMBER

Softwood—			
Joinery quality ... ... Ex Wharf per standard	£115 to £140		
Carcassing quality ... do. ,,	£95 to £100		
1 in. Tongued and Grooved Flooring do. ,,	£108	0	0
Hardwood—			
Mahogany—African S.E. do. per ft. cube	1	10	0
do. Honduras do. do. ,,	3	5	0
Oak European do. do. ,,	2	5	0
do. Japanese do. do. ,,	2	10	0
do. English Logs sawn do. ,,	2	0	0
Teak 8 in. average S.E. do. ,,	3	17	6
Walnut African Logs sawn do. ,,	1	5	0

DOORS (in Lots 1-11)

	£	s.	d.
Delivered London area			
1¼ in. 4 Horizontal Panel. Pattern 4 in. deal			
2 ft. 0 in. × 6 ft. 6 in. ... ... each	1	16	0
2 ft. 3 in. × 6 ft. 6 in. ... ... ,,	1	17	6
2 ft. 6 in. × 6 ft. 6 in. ... ... ,,	1	18	6
2 ft. 9 in. × 6 ft. 6 in. ... ... ,,	2	0	6
2 in. do. but top panel open. Pattern 4 × G in deal			
2 ft. 6 in. × 6 ft. 6 in. ... ... ,,	2	9	0
2 ft. 9 in. × 6 ft. 6 in. ... ... ,,	2	11	6
2 in. 2 Panel top panel open. Pattern 2 × G in deal			
2 ft. 6 in. × 6 ft. 6 in. ... ... ,,	2	3	0
2 ft. 9 in. × 6 ft. 6 in. ... ... ,,	2	5	0

SUNDRIES

Delivered London area.			
1 in. Wood Wool Slabs 6 ft. 0 in. × 2 ft. 0 in. in quantities of 1 ton (89 yds. to 1 ton) ... ... per yd.		6	2
1½ in. do. (67 yds. to 1 ton) ... ... ,,		8	0
2 in. do. (52 yds. to 1 ton) ... ... ,,		9	9½
2½ in. do. (45 yds. to 1 ton) ... ... ,,		11	3
3 in. do. (39 yds. to 1 ton) ... ... ,,		12	7½
Quantities under 1 ton add 1d. per ½ in. of thickness.			
½ in. imported insulation Board, quantities over 5,000 sq. ft. per 100 sq. ft.	2	2	6
¼ in. Hardboard do. ... ... ,,	2	0	0
5/16 in. do. do. ... ... ,,	2	17	6
1/16 in. Asbestos Flat Building Sheets ... ... per yd. sup.		4	3½
¼ in. do. ... ... ,,		5	10½
Roofing Felt 1-ply ... ... ,,		1	9
do. 2-ply ... ... ,,		2	2¼
Best Scotch Glue in slabs ... ... per ½ cwt.	5	0	0
do. pearl ... ... ,,	5	5	0
Croid Glue ... ... 28 lb.	2	6	0
Cut Nails 3 in. (1-ton. lots) ... ... per ton	78	10	0
do. 4 in. and up (1-ton lots) ... ... ,,	75	0	0
Wire Nails 3 in. (4-cwt. lots) ... ... per cwt.	3	13	11
do. 4 in. and up (4-cwt. lots) ... ... ,,	3	13	3

METALS

STEEL JOISTS, ETC.

Basis Joists—			
6 in. × 5 in., 8 in. × 5 in., 8 in. × 6 in., 10 in. × 6 in., 12 in. × 6 in. plain cut to lengths delivered London area ... ... per ton	51	2	6
Extra for sizes			
3 in. × 1½ in. 4 in. × 1¾ in. ... ... ,,	3	10	0
3 in. × 3 in. ... ... ,,	2	10	0
4 in. × 3 in. ... ... ,,	2	5	0
10 in. × 4½ in. ... ... ,,	1	10	0
5 in. × 2½ in. 5 in. × 3 in. ... ... ,,	1	15	0
4¾ in. × 1¾ in. ... ... ,,	3	5	0
5 in. × 4½ in. 7 in. × 3½ in. 13 in. × 5 in. ,,		15	0
6 in. × 3 in. 24 in. × 7½ in. ... ... ,,	2	0	0
6 in. × 4½ in. 7 in. × 4 in. 8 in. × 4 in. } 9 in. × 4 in. 10 in. × 5 in. ... ... } ,,	1	5	0
12 in. × 5 in. 22 in. × 7 in. ... ... ,,	1	0	0
9 in. × 7 in. 10 in. × 8 in. 12 in. × 8 in. 14 in. × 5½ in. 14 in. × 6 in. 14 in. × 8 in. 15 in. × 5 in. 15 in. × 6 in. 16 in. × 6 in. 16 in. × 8 in. 18 in. × 6 in. 18 in. × 7 in. 18 in. × 8 in. 20 in. × 6½ in. 20 in. × 7½ in. ,,		10	0
Steel angles average price ... ... ,,	53	2	6
Steel tees average price ... ... ,,	54	2	6
Fabricated work delivered London—			
R.S. Joists cut and fitted ... ... ,,	70	12	6
Compound girders ... ... ,,	77	0	0
Stanchions ... ... ,,	82	10	0
Compound stanchions ... ... ,,	87	0	0
In Roof Work—Trusses and Purlins ... ... ,,	100	12	6
Average prices not for awkward work.			
Angle cleats and ⅜ in., ½ in. and ⅞ in. bolts average price London area ... ... per cwt.	5	19	0

FERRO-CONCRETE BARS

Mild Steel Ferro-Concrete bars British manufacture to BSS785 ex London Stock ⅜ in. diam., and upwards ... ... per ton	49	17	6
¼ in. diam. ... ... ,, extra	8	12	6
5/16 in. do. ... ... ,,	6	12	6
⅜ in. do. ... ... ,,	4	12	6
½ in. do. ... ... ,,	3	2	6

MILD STEEL TUBES

Tubes to BSS1387 and Fittings. List prices and following discounts :

Galvanised Tube—

	Under 1 ton	Over 1 ton	W.I. Fittings	Malleable Fittings
Class A	+24½ %	+21 %	Light +48 %	Malleable List
Class B	+37 %	+33½ %	Heavy +55½ %	−20½ %+40 %
Class C	+57 %	+53¾ %		

Black—

Class A	+ 4½ %	+ 1½ %	Light +35½ % Malleable List
Class B	+18½ %	+15 %	Heavy +43½ % − 20½ %
Class C	+34½ %	+31½ %	

C.I. HALF-ROUND GUTTERS

Delivered London per yd. in 6-ft. lengths

	Gutters	Nozzles	Stop Ends
3 in.	4/0½	3/7	1/–
3½ in.	4/4½	3/11	1/–
4 in.	5/8	4/5	1/7
4½ in.	6/3	4/11	1/10
5 in.	6/11½	5/4	2/2

METALS—*continued*

C.I.O.G. Gutters

	Gutters	Nozzle	Stop Ends
3 in.	5/2½	4/8	1/3
3½ in.	5/10	4/8	1/7
4 in.	6/5	4/11	1/10
4½ in.	6/11½	5/8	2/2
5 in.	7/7½	6/5	2/6

C.I. Rain-water Pipes

Per yd. in 6-ft. lengths	Pipe	Bends	Branches
2 in.	8/7½	4/5	6/4
2½ in.	8/7½	4/11	8/6
3 in.	9/8½	6/2	9/2
3½ in.	11/0½	7/3	11/–
4 in.	12/9	8/9	13/1

L.C.C. Coated Soil Pipes

2 in.	9/8½	7/7	9/2
2½ in.	10/4	8/5	11/5
3 in.	11/7	9/2	13/7
3½ in.	12/11½	11/5	15/10
4 in.	14/9	12/9	18/8

Above prices for gutters, rain-water and soil pipes for under 5 cwt. lots only. Lots over 5 cwt. see List No. 3300 dated February 1, 1955, plus 22½% and tonnage allowance. 4-ton lots 5 per cent., 2-ton lots 2½ per cent.

L.C.C. Coated Drain Pipes

In 9-ft.	cwt.	qt.	lb.	per yd.	Bends	Branches
4 in.	1	1	17	35/3	23/9	42/–
6 in.	2	0	1	51/7	63/9	101/–

Asbestos Rain-water Pipes and Fittings

All less 17½ per cent. discount.

	2 in.	2½ in.	3 in.	4 in.
Pipes 6-ft. lengths ... per yd.	4/7	4/10½	5/11	7/10
Shoes ... ... each	3/–	3/3	3/10	5/2
Single Branches ... ... ,,	4/8	5/6	6/7	9/2
Bends square or obtuse ... ,,	3/3	3/7	4/8	6/7
Swan Necks 4½ in. proj. ... ,,	3/7	4/8	5/2	7/3
,, 6 in. ,, ... ,,	3/10	5/2	5/10	7/10

Asbestos O.G. Gutters and Fittings

	4 in.	4½ in.	5 in.	6 in.
Gutters 6-ft. lengths ... ... per yd.	4/4	4/9½	5/9	6/10½
Drop ends ... ... each	3/6	4/–	4/9	5/5
Stop ends ... ... ,,	1/1	1/2	1/3	1/5
Angles ... ... ,,	3/7	4/1	5/–	5/10
Nozzles ... ... ,,	3/6	4/–	4/9	5/–
Union Clips ... ... ,,	1/9	2/1	2/6	2/11

Asbestos Half-Round Gutters and Fittings

	3 in.	4 in.	4½ in.	5 in.	6 in.
Gutters 6-ft. lengths per yd.	3/0½	3/7½	3/8½	4/4½	6/1
Drop ends ... ... each	2/6	3/–	3/3	3/7	5/2
Stop ends ... ... ,,	1/–	1/1	1/2	1/3	1/5
Angles ... ... ,,	2/10	3/3	3/7	3/10	5/2
Nozzles ... ... ,,	2/6	3/–	3/3	3/7	5/2
Union Clips ... ,,	1/3	1/4	1/5	1/7	2/5

	Per ton basis in London £ s. d.
Iron—Staffordshire Crown Merchant Quality	52 17 6
Mild Steel Bars	47 12 6
Mild Steel Hoops	46 14 6

	Ex Merchant's Stock per ton Two-ton lots £ s. d.
Soft Sheets C.R. and C.A.—	
20 gauge	62 14 6
24 gauge	65 4 6
26 gauge	68 4 6
Galvanised Corrugated sheets 6 ft. to 9 ft.—	
20 gauge	69 10 0
24 gauge	73 0 0
26 gauge	78 5 0
Galvanised flat sheets C.R. and C.A.—	
20 gauge	71 0 0
24 gauge	74 10 0
26 gauge	79 15 0

ALUMINIUM AND ALUMINIUM ALLOYS

(Base prices)		£ s. d.
Sheet BS 1740 S1C 18 SWG (36 in. wide)	per lb.	2 11
Sheet BS 1470 NS3 Utility 18 SWG (36 in. wide)	,,	2 8½
Coiled strip BS 1470 S1C 18 SWG (24 in. wide) ...	,,	2 10
Coiled strip BS 1470 NS 3 Utility 18 SWG (24 in. wide)	,,	2 8
Coiled strip for flashing 99.7% purity 22 SWG (12 in. wide)	,,	3 0½
Corrugated sheet BS 1470 NS 3 Utility Circular Profile 8 ft. × 32 in. × 20 SWG	per sheet	1 12 6
Corrugated sheet BS 1470 NS 3 Utility Industrial Profile 8 ft. × 31¼ in. × 20 SWG	,,	1 18 1
Corrugated sheet BS 1470 NS 3 Utility Mansard Profile 8 ft. × 31¼ in. × 20 SWG	,,	1 11 7
Extruded section BS 1476 E1C simple moulding ...	per lb.	2 9
Extruded section BS 1476 E1C 1 in. diam. round	,,	2 6½
Extruded section BS 1476 HE1WP simple angle ...	,,	3 0
Extruded section BS 1476 HE10WP 1 in. diam. round	,,	2 11
Tubing BS 1471 T1C 1½ in. O/D × 20 SWG ...	,,	4 4½
Tubing BS 1471 HT10WP 1½ in. O/D × SWG ...	,,	5 8

PLUMBERS' BRASS WORK, etc.

Delivered in London area.

M.O.H.

All per doz.	½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
Screwdown bib cocks Crutch head for iron	87/–	128/8				
Toilet bib cocks for iron ...	109/–	158/5				
Screwdown stop cocks for iron	66/–	95/9	188/–	363/–	522/6	917/6
do. with two unions for lead	89/–	132/–	234/4	472/–	623/6	1389/6
Double nut boiler screws ...	18/8	26/5	47/6	48/6	67/–	93/6
Heavy Croydon ball valves ...	77/–	193/6	312/5	568/8	734/10	—
Plumbers' union brass lead to iron	19/6	23/6	38/6	52/10	70/6	165/–

	1½ in.	1¾ in.	2 in.	3 in.	3½ in.	4 in.
Caps and screws	33/–	40/8	59/6	92/5	118/10	155/3
Brass sleeves		31/11	31/11	56/2	74/10	91/5
	1¼ × 6 lb.		1½ × 6 lb.	2 × 7 lb.		3 × 7 lb.
Lead P. trap with brass cleaning screws	64/10		81/–	129/6		221/6
Lead S. Trap do.	78/6		97/3	159/6		286/3

Solder	s. d.
Plumbers' ... ... 1 cwt. lots	332/– 14 lb. lots per lb. 3 6
Tinmen's ... ... ,, ,,	408/– ,, ,, 4 1
Blow pipe ... ... ,, ,,	411/– ,, ,, 4 5

Copper Tubes and Sheets

Copper tubes BSS 659/1944 on the basic price of 22¼d. per lb. plus gauge and manufacturing extras as follows. Minimum quantities, 3 cwt.

	Extra d.	Total per lb. d.	approx per ft. d.
¼ in. × 19 gauge ...	14¾	37	10
⅜ in. × 19 ,, ...	13	35½	13½
1 in. × 18 ,, ...	11½	33½	21
1¼ in. × 18 ,, ...	10⅞	33½	25½
1½ in. × 18 ,, ...	10⅜	33½	30½
2 in. × 17 ,, ...	12½	34⅝	48½

Rolled Copper sheets up to 48 in. wide, basic price plus gauge and manufacturing extras ... ... per ton £217 0 0

Zinc

		£ s. d.
Sheet Zinc	10 gauge (25 SWG) 5 cwt. lots upwards per cwt.	6 18 6
do.	12 gauge (23 SWG) ,, ,,	6 16 0
do.	14 gauge (21 SWG) ,, ,,	6 14 9

Brass Tubes

		£ s. d.
Brass tubes basic price, plus gauge and manufacturing extras	per lb.	1 6½

LEAD SHEET AND PIPES

Basis selling price in minimum one-ton delivery to one address in London or Home Counties.

		£ s. d.
Lead Sheet, English, 3½ lb. substance and upwards	per ton	124 5 0
Lead Water Pipe in coils	,,	126 10 0
Lead Soil Pipe 10 ft. or over 2 in. to 4 in. dia. ...	,,	128 0 0
,, over 4 in. dia.	,,	130 0 0
Lead Gas or Untinned Compo pipe	,,	128 0 0
Extras over Basis for quantities under 1 ton		
5 cwt. and under 1 ton	per cwt.	2 0
3 cwt. do. 5 cwt.	,,	4 0
1 cwt. do. 3 cwt.	,,	6 0

Smaller quantities than 1 cwt. priced specially.
Supplying sheet lead and lead pipe to less than basis weights and cutting to sizes less than basis charged extra according to current trade schedule.
Allowance for Old Lead, collected £75 0s. 0d. per ton weighed at buyer's works.

PLASTER, etc.

		£ s. d.
Coarse Pink in 1-ton loads and over Delivered on Site	per ton	8 9 6
do. White do. do. ...	,,	8 19 0
Siripite Coarse do. do. ...	,,	8 10 6
do. Fine do. do. ...	,,	8 18 6
Blue Lias Lime in 6-ton loads	,,	6 14 6
Hydrated Lime (Grey) do.	,,	5 17 6
do. (White) do.	,,	6 5 0
Lump Lime (Grey) do.	,,	5 7 0
do. (White) do...	,,	5 14 6
White Keen's or Parian Cement in 1-ton loads ...	,,	12 4 6
Pink Keen's or Parian Cement in 1-ton loads ...	,,	11 19 3
Granite Chips in 6-ton loads	,,	2 8 6
Hair	per cwt.	4 17 6
Gypsum Plaster Lath or Base Board ⅜ in. thick 600 yds. and over in one delivery. Delivered site ...	per yd.	2 5
1,200 yds.	,,	2 4
Do. Insulating do. ⅜ in. thick 600 yds. and over in one delivery. Delivered site	,,	3 0
1,200 yds.	,,	2 11½
Gypsum Plaster Wall Boards, 3 and 4 ft. wide, 6 to 12 ft. ⅜ in. thick, 600 yds. and over in one delivery Delivered site	,,	2 8
1,200 yds.	,,	2 7
Do. Insulating do. ⅜ in. thick 600 yds. and over in one delivery. Delivered site	,,	3 3
1,200 yds.	,,	3 2½

PAINT AND DISTEMPER

	£ s. d.
Delivered London area	
Ceiling Distemper ... ... per cwt.	1 7 6
Washable Distemper ... ... ,,	5 5 0
Gloss Paint ... ... per gal.	2 12 0
Snowcem cement paint (in 1 cwt. drums) ... ... per cwt.	3 11 0
LEAD PRODUCTS AND OILS	
Ground White Lead, in 1 cwt. kegs... ... ... per cwt.	8 18 3
Genuine White Lead Paint, 1-19 gal. lots in 1 gal. tins per gal.	3 6 6
Genuine Red Lead, Dry, 1 cwt. keg. ... ... per cwt.	6 2 0
Genuine Linseed Oil Putty, 1 cwt. keg ... ... ,,	2 14 0
Size XD quality 28 lb. ... ... per tin	9 0
Raw Linseed Oil (5 gal.) drums extra ... ... per gal.	17 0
Boiled Linseed Oil (5 gal.) do. ... ... ,,	17 6
SUNDRIES	
Turpentine substitute (5 gal.) drums extra ... ,,	5 4⅜
do. do. (40 gal.) do. do. ... ... ,,	4 8⅝
Solignum, Brown (5 gal. cans) Exterior ... ... ,,	8 4
Creosote (40 gal. barrels) ... ... ,,	2 3
Paste Powder (1 lb. packets) ... ... per lb.	1 10
White Lining Paper ... ... per piece	1 2½

VARNISHES, etc.

	£ s. d.
Delivered London area	
Oak Varnish, Outside or Inside ... ... per gal.	2 0 0
Oak Pale Copal do. ... ... ,,	2 0 0
Hard Drying Oak for Inside ... ... ,,	2 5 0
Crystal Paper Varnish do. ... ... ,,	2 8 0
Eggshell Flat Varnish do. ... ... ,,	2 6 0
Finest Carriage Varnish ... ... ,,	2 7 0
Front Door Varnish ... ... ,,	2 4 0
Japan Gold Size ... ... ,,	1 18 0
Black Japan ... ... ,,	1 16 0
Brunswick Black ... ... ,,	1 12 0
Berlin Black ... ... ,,	1 10 0
Terebene ... ... ,,	1 17 0
Knotting (1 gal. bottles free)... ... ... ,,	1 15 0
French and Brush Polish (do.) ... ... ,,	2 2 0

GLASS

	per ft. super s. d.
Delivered London area	
18 oz. Sheet Glass Ordinary Glazing Quality-Cut Sizes	7⅞
24 oz. ,, ,, ,, ,, ,, ,,	10⅜
26 oz. ,, ,, ,, ,, ,, ,,	1 0½
32 oz. ,, ,, ,, ,, ,, ,,	1 4½
⅛ in. Rolled Plate	11½
¼ in. Rolled and Rough Cast	1 3
½ in. ,, ,, ,, ,, ...	1 3¾
⅛ in. Figured Rolled and Cathedral, Standard patterns:	
White Group 1	11¾
do. Group 2	1 3½
do. Standard Tints	1 10
do. Special Tints	6 8
⅛ in. Pinstripe, Hammerstripe, Reeded, Reedlyte and Luminating Group 3	1 4⅜
¼ in. Wired Cast	1 7½
¼ in. Georgian Wired Cast	1 7½
Hollow Glass Blocks—	Each
P.B.2 5¾ × 5¾ × 3⅞ in.	3 3
P.B.3 7¾ × 7¾ × 3⅞ in.	5 0
P.B. 32 7¾ × 7¾ × 3⅞ in.	5 0
Radiused Corner Blocks to match up with—	
P.B.2	6 0
P.B.3	7 6
P.B.32	7 6
¼ in. Polished Plate Glass, G.G. Quality—	Per ft. super
In plates not exceeding 2 ft. sup.	4 3
,, ,, ,, 5 ft. sup.	5 3
,, ,, ,, 45 ft. sup.	6 3
,, ,, ,, 100 ft. sup.	6 9
¼ in. Polished Plate, extra sizes, *i.e.*, plates exceeding 100 ft. sup. or 160 in. one way or 96 in. both ways. G.G. quality—Not exceeding 135 ft. sup. or 240 in. one way or 130 in. both ways	10 0
Not exceeding 180 ft. sup. or ditto	13 4

Plates exceeding 180 ft. sup. prices on application.
Substances other than ¼ in. Polished Plate at Special Prices.

Quantity Tariff—Sheet and Sundry Glass.

The following prices apply to minimum quantities of one size and one pattern delivered by the manufacturer to one site at one time.

Description of Glass	Minimum quantity	Per ft. sup. s. d.
18 oz. sheet O.Q.	3,000	5⅞
24 oz. ,, ,, ...	2,000	7⅞
26 oz. ,, ,, ...	2,000	9¼
32 oz. ,, ,, ...	2,000	1 1½
⅛ in. Rolled Plate	1,000	9¼
⅛ in. Figured Rolled and Cathedral Standard Patterns, White Group 1	1,000	9¼
do. Group 2	1,000	11⅛
⅛ in. Pinstripe, Hammerstripe, Reeded, Luminating and Spotlyte Group 3	1,000	1 0¾
¼ in. Rolled Plate or Rough Cast	2,000	1 0¼
½ in. ,, ,, ,, ...	2,000	1 1½
¼ in. Wired Cast, Hexagonal	2,000	1 3¼
¼ in. Georgian Wired Cast	2,000	1 4

The Builder

CURRENT RATES OF WAGES

AS FROM MAY 27, 1957. (Every endeavour is made to ensure accuracy but we cannot be responsible for errors.)

KEY TO SCHEDULE OF GRADE RATES.

Grade Classification.	A	A1
Craftsmen	4/6	4/5½
Labourers	3/11½	3/11

Town.	*Grade.*
Aberavon	A
Aberdare	A
Abergavenny	A
Abingdon	A1
Accrington	A
Addlestone	A
Afan Valley	A
Aldeburgh	A1
Aldershot District	A1
Alfreton UD	A
Alnwick UD	A
Altrincham	A
Amble	A
Ambleside	A1
Amersham	A
Ammanford	A
Andover	A1
Anglesey, Isle of	A1
Ardingly	A1
Arundel	A1
Ascot	A1
Ashbourne RD	A1
Ashbourne UD	A1
Ashby-de-la-Zouch UD	A
Ashby Woulds UD	A
Ashford (Kent)	A1
Ashford (Middlesex)	A
Ashington UD	A
Ashtead	A
Ashton-under-Lyne	A
Aspatria and Brayton	A1
Atherstone RD	A
Attleborough	A1
Axminster	A1
Aylesbury	A1
Aylsham	A1
Bagshot	A1
Bakewell UD	A1
Banbury	A1
Bangor	A1
Barnard Castle UD	A
Barnoldswick UD	A
Barnsley CB	A
Barnstaple	A1
Barrow-in-Furness	A
Barrow-upon-Soar RD (part Thrussington)	A1
Barry	A
Basford RD (exc. Willough-by-on-the-Wolds A1)	A
Basingstoke	A1
Bath	A
Batley MB	A
Baxterley	A1
Beaconsfield District	A
Bearl	A
Beccles	A1
Bedale RD	A
Bedford	A
Bedlington	A
Bedlingtonshire UD	A
Bedwas	A
Beeston & Stapleford UD	A
Belper UD	A
Belton	A
Berkhamsted	A
Berrington	A1
Berwick Borough	A
Beverley MB	A
Bewdley MB.	A
Bexhill-on-Sea	A1
Bideford	A1
Biggleswade	A1
Billericay	A
Billing	A
Billingham UD	A
Bilsthorpe	A
Bilston MB	A
Birchington	A1
Birkenhead	*
Birmingham CB	†A
Bishop Auckland UD	A
Bishop's Stortford	A
Bishops Castle MB.	A1
Bispham	A
Blackburn	A
Blackpool	A
Blackwell RD	A
Blandford	A1
Blaydon UD	A
Blidworth	A
Blyth B.	A
Bodmin	A1
Bognor Regis	A1
Boldon UD	A
Bolsover UD	A
Bolton	A
Boston MB	A
Bourne End	A
Bournemouth District	A
Brackley MB	A1
Bracknell	A1
Bradford CB	A
Bradford-on-Avon	A1
Braintree	A1
Brandon & Byshottles UD	A
Brecon—Borough of	A1
Breconshire, County of ...	‡A1
Brent Knoll	A1
Brentwood	A
Bridgend	A
Bridlington MB	A
Bridlington RD	A1
Bridgnorth MB	A1
Bridgnorth RD	A1
Bridgwater	A1
Brierfield	A
Brighouse MB	A
Brighton & Hove	A
Bristol District	A
Broadstairs	A1
Bromsgrove UD	A
Broughton, Flint	A
Buckfastleigh	A1
Buckingham	A1
Buckley	A
Bungay	A1
Burnham-on-Crouch	A1
Burnham-on-Sea	A1
Burnley	A
Burton-on-Trent C.B.	A
Bury	A
Bury St. Edmunds	A1
Buxton	A
Byfleet	A1
Caernarvon	A1
Caernarvonshire, Cnty. of	‡A1
Calder Valley	A
Camberley District	A1
Cambridge	A
Cannock UD	A
Canterbury	A1
Cardiff	A
Cardiganshire, County of	‡A1
Carlisle	A

CURRENT RATES OF WAGES—Continued

Town.	Grade.
Carlton UD	A
Carmarthen—Borough of	A1
Carmarthenshire, Cnty of	‡A1
Carnforth	A
Castleford UD	A
Caterham	A
Chapel-en-le-Frith	A
Chard	A
Charmy Down	A1
Chatham District	A
Chatteris	A
Cheadle (Staffs) RD	A1
Chelmsford	A
Cheltenham	A
Chepstow	A
Chertsey	A
Chester	A
Chester-le-Street UD	A
Chesterfield MB	A
Chesterfield RD	A
Chichester	A
Chipping Norton	A1
Chipping Sodbury	A1
Chippenham (inc. Chippenham Within and Hardenhuish)	A1
Chorley	A
Cirencester	A1
Clacton	A1
Clay Cross UD	A
Cleethorpes MB	A
Clevedon	A1
Cleveleys	A
Clitheroe	A
Coalville UD	A
Cobham (Surrey)	A
Colchester	A
Colne	A
Colwyn Bay	A1
Congleton	A1
Consett UD	A
Conway	A1
Corby UD	A
Cornwall, County of	‡A1
Corsham District	A
Coventry CB	A
Cranbrook	A1
Cranleigh	A1
Cranwell Aerodrome Site	A
Crawley	A1
Crewe	A
Crewkerne	A1
Cromer	A1
Crook and Willington UD	A
Crowborough	A1
Cuckfield	A1
Cwmbran	A
Dalton-in-Furness	A
Darlington CB	A
Dartmouth	A1
Darwen	A
Daventry MB	A1
Deal	A1
Denbigh Town	A1
Derby CB	A
Devizes	A1
Devon, County of	‡A1
Dewsbury CB	A
Didcot	A1
Diss	A1
Doncaster CB	A
Dorchester	A1
Dorking	A
Dorset, County of	A1
Dover	A1
Dovercourt	A
Driffield UD	A1
Drigg & Carleton	A
Droitwich MB	A
Dudley CB	A
Dunstable	A
Durham B	A
Eastbourne	A
E. Glam. & Mon. Val.	A
East Grinstead District	A1
East Kesteven RD	A1
East Retford MB	A
Eastwood (Notts) UD	A
Ebbw Vale & District	A
Edenbridge	A1
Ely	A
Epping	A
Evesham MB	A1
Exeter	A
Exmouth	A1
Fakenham	A1
Falmouth	A1
Fareham	A
Faversham	A1
Felixstowe	A1
Filey UD	A
Fleetwood	A
Flint MB	A
Folkestone	A1
Frinton	A1
Frome	A1
Gainsborough UD	A
Gateshead CB	A
Gillingham (Dorset)	A1
Gillingham (Kent)	A
Glastonbury & Street	A1
Glossop	A
Gloucester	A
Gloucestershire, Cnty. of	‡A1
Godalming	A1
Goole, MB	A
Goole RD (part—Airmyn, Hook)	A
Gosport	A
Grantham MB	A
Gravesend	A
Grays Thurrock UD Area	A
Great Yarmouth	A
Grimsby CB	A
Grimsby RD (part)	A1
Guildford District	A1
Halesowen MB	A
Halifax CB	A
Halstead	A
Haresfield	A1
Harlow	A1
Harpenden	A
Harrogate MB	A
Hartlepool B	A
Harwell	A
Harwich	A1
Haslemere	A
Hastings	A1
Hatfield (Herts)	A
Havant	A
Haywards Heath	A
Heanor UD	A1
Hemel Hempstead	A
Henley-on-Thames	A
Hereford	A1
Herefordshire, Cnty. of	‡A1
Herne Bay	A1
Hertford	A
Hexham RD	A
Hexham UD	A
Heysham	A
Heywood	A
Higham Ferrers MB	A
High Wycombe	A
Hinckley UD	A
Hitchin	A
Hoddesdon	A
Holywell	A
Horley	A
Horncastle UD	A1
Horsham	A1
Horwich	A
Huddersfield CB	A
Hull	A
Hunstanton	A1
Huntington (Staffs)	A
Ilfracombe	A1
Ilkeston MB	A
Ilkley UD	A
Ipswich	A
Isle of Sheppey	A1
Isle of Thanet	A1
Isle of Wight	A1
Jarrow B	A
Keighley MB	A
Kendal	A
Kenilworth UD	A
Kettering MB	A
Keynsham	A
Kidderminster MB	A
Kingskerswell	A1
King's Lynn	A1
Kingsteignton	A1
Kirkham	A
Knaresborough UD	A
Knutsford	A
Lancaster	A
Leamington MB	A
Leatherhead	A
Leeds CB	A
Leek UD	A
Leicester CB	A
Leighton Buzzard	A1
Leiston	A1
Leominster	A1
Letchworth	A
Lewes	A1
Lichfield MB	A
Lincoln CB	A
Liskeard	A
Littlehampton	A1
Liverpool	*
Llandudno	A1
Llanelly (incl. Llanelly RD)	A
Llanfairfechan	A1
Llangollen	A1
London	*
Long Eaton	A
Looe	A1
Loughborough MB	A
Louth MB	A1
Lowestoft	A
Loxton	A1
Ludlow MB	A1
Ludlow RD	A1
Luton	A
Lyme Regis	A1
Lyneham (Devon)	A
Lytham	A
Macclesfield	A
Maidenhead	A
Maidstone	A
Maldon (Essex)	A1
Maltby UD	A
Malton UD	A1
Malvern UD	A
Manchester	A
Manningtree	A1
Mansfield MB	A
March	A1
Margate	A1
Market Harborough RD	A1
Market Harborough UD	A
Market Rasen UD	A1
Martock	A
Maryport	A
Matlock UD	A
Melksham	A1
Melton Mowbray UD	A
Merionethshire	A1
Merthyr	A
Mexborough UD	A
Middlesbrough CB	A
Middleton	A
Middlewich	A1
Mildenhall	A
Milford Haven UD	A1
Minehead	A1
Monmouth—Borough of	A1
Monmouthshire	A
Morecambe	A
Moreton Valence	A1
Morley	A
Morpeth B	A
Morpeth RD	A
Mundesley	A1
Nantwich	A
Neath & Valley	A
Nelson	A
Newark MB	A
Newbury	A1
Newcastle-on-Tyne CB	A
Newcastle-under-Lyme	A
New Forest District	A1
Newmarket	A1
Newport, Mon.	A
Newport Pagnell	A1
Newquay	A1
Newton Abbot	A1
Normanton UD	A
Northallerton District	A
Northallerton UD	A
Northampton CB	A
North Shields	A
North Walsham	A1
Northwich	A
Norton Radstock	A1
Norwich	A
Nottingham CB	A
Nuneaton MB	A
Oakham RD	A1
Oakham UD	A1
Okehampton	A1
Oldham	A
Ongar	A
Ormskirk	A
Ossett & Horbury	A
Oswestry	A
Oundle UD	A1
Oxford	A1
Oxted	A
Padstow	A1
Paignton	A1
Par	A1
Pembrokeshire (except Milford Haven)	A1
Penmaenmawr	A1
Penrith UD	A1
Penzance	A1
Peterborough, Soke of (Eastern Regional portion)	A1
Petersfield	A1
Pickering	A1
Plymouth	A1
Pontefract MB	A
Pontypool & District	A
Pontypridd District	A
Porthcawl	A
Portishead	A
Portland Bill	A1
Portsmouth	A
Port Talbot	A
Preston	A
Princetown	A
Pudsey MB	A1
Pulborough	A
Radnorshire, County of	‡A1
Ramsgate	A1
Raunds UD	A
Rayleigh	A
Reading	A
Redcar B	A
Redditch UD	A
Redhill & Reigate	A
Rhondda Valley	A
Richmond B (Yorks)	A
Ripon MB	A1
Rochdale	A
Rochester	A
Ross-on-Wye	A
Rossendale Valley	A1
Rotherham CB	A
Royston	A
Rugby MB	A1
Rugeley UD	A
Rushden UD	A1
Saffron Walden	A1
St. Albans	A
St. Austell	A1
St. Helens	A
St. Neots	A1
Salisbury City	A1
Salisbury Plain	A1
Sandy	A1
Sawbridgeworth	A
Saxmundham	A1
Scarborough MB	A
Scunthorpe MB	A
Seaford & Newhaven	A1
Selby UD	A
Sevenoaks	A
Shaftesbury	A1
Sheerness	A1
Sheffield MB	A
Shepton Mallet	A1
Sherborne	A1
Shipley	A
Shoeburyness	A
Shoreham	A
Shrewsbury MB	A
Sirhowy Valleys	A
Sittingbourne	A
Skegness UD	A1
Skipton UD	A1
Sleaford UD	A1
Slough, Windsor & Eton District	A
Smethwick CB	†A
Snettisham	A1
Solihull UD	A
Somerset, County of	‡A1
Southampton and Eastleigh	A
Southend-on-Sea Dist.	A
Southport	A
South Shields CB	A
Southwold	A1
Spalding UD	A1
Stafford MB	A
Staines	A
Stamford MB	A
Stantonwick	A
Stevenage	A
Stockport	A
Stockton RD	A
Stockton-on-Tees B.	A
Stoke-on-Trent CB	A
Stoke Orchard	A1
Stourbridge MB	A
Stourport UD	A
Stowmarket	A1
Stratford-on-Avon MB	A
Stroud (RD Area)	A1
Sunderland CB	A
Sunningdale	A1
Sutton Coldfield MB	A
Swadlincote UD	A
Swaffham	A1
Swanage District	A1
Swansea	A1
Swindon District	A
Swinton UD	A
Tamworth MB	A
Taunton	A1
Tavistock	A1
Tenterden	A1
Teignmouth	A1
Tewkesbury	A1
Thames Haven	A
Thetford	A1
Thirsk RD	A
Thorpe Bay	A
Thurrock UDC Area (North of to Billericay)	A
Tilbury	A
Todmorden MB	A
Tonbridge	A1
Torquay	A1
Totnes	A1
Tring	A1
Trowbridge	A1
Truro	A1
Tunbridge Wells	A1
Tynemouth CB	A
Ulverston	A
Uppingham (Salop)	A1
Uttoxeter RD	A1
Uttoxeter UD	A1
Wakefield CB	A
Wakefield RD	A
Walsall CB	A
Wallsend B	A
Walsden	A
Walton-on-Naze	A1
Ware	A
Warminster	A1
Warrington	A
Warwick MB	A
Wednesbury MB	A
Wellingborough UD	A
Wellington UD	A
Wellington (Somerset)	A1
Wells (Norfolk)	A1
Wells (Somerset)	A1
Welwyn	A
Welwyn Gar. City	A
West Bromwich CB	A
Westbury	A1
Westcliff-on-Sea	A
Westerham	A1
West Hartlepool CB	A
Westmorland (except Kendal)	A1
Weston-super-Mare	A1
Weybridge	A
Weymouth (including Portland Bill, excluding Portland Stoneyards)	A1
Whitby UD	A1
Whitby RD	A1
Whitehaven	A
Whitley & Monkseaton UD	A
Whitstable and District	A1
Wickford	A
Widnes	A
Wigan	A
Wigton	A
Wilmslow	A
Wilts. County of	‡A1
Wimborne	A1
Wincanton	A1
Winchester	A1
Windermere	A1
Wisbech	A1
Witham	A1
Withernsea UD	A1
Woking	A1
Wokingham	A1
Wolverhampton CB	A
Wolverton District	A1
Woodbridge	A1
Woodhall Spa UD	A1
Woodstock	A1
Worcester CB	A
Workington	A
Worksop MB	A
Worthing	A1
Wrexham (incl. Cefn)	A
Wroughton	A1
Wylam	A
Wymondham	A1
Yate	A1
Yeovil Borough	A1
York CB	A
Ystalyfera	A

*For Birkenhead, Liverpool and London the rates are:—Craftsmen, 4s. 7½d.; Labourers, 4s. 1d. In the case of London the rate beyond the 12-mile radius is: Craftsmen, 4s. 7d.; Labourers, 4s. 0½d. †Plus 2d. per working day. ‡This is the County rate and applies except where higher grades are stated.

NOTE.—Carpenters and Joiners providing own tools when employed in establishments operating under the Supplementary Rules for Woodworking Factories and Shops, receive 2d. per day; when employed on other building industry work, 4d. per day.

WOMEN'S RATES.—In all districts throughout the country the rate of wages for women engaged in craft processes is 3s. 7½d. per hour. Women engaged on work other than craft processes, 3s. 3½d. per hour.

For Building Trade Wages in Scotland see page 940

NEWS IN BRIEF

Registered House-Builders

THE Council of the Federation of Registered House-Builders has made the following nominations of officers for 1958 to be submitted at the annual general meeting to be held at 82, New Cavendish-street, W1, on December 5: President, Mr. D. G. Howard (London); Senior Vice-President, Mr. I. W. Owen (Stockport); Junior Vice-President, Mr. E. R. Bowyer, JP (Slough); Immediate Past-President, Mr. C. R. Setter, JP (Bristol).

Redundant Building Workers

Because of cuts in house building after introduction of the 7 per cent. Bank rate, Plymouth City Council are to dismiss 120 men from the works department.

Tenants Petition Council

Bentley Urban Council, Doncaster, have been told by tenants of flats at Scawthorpe that they feel it is time they were moved to orthodox houses because of the high level of noise caused by inadequate sound insulation. They allege that they were told the flats would be sound-proof but they can hear people talking and radios playing. A petition presented by the tenants is to go before the housing committee.

Church Preservation Fund

A booklet with the title of 'A Village of 13 Names,' was published on November 16 on behalf of the Yateley Church Preservation Fund. In a foreword the Duke of Wellington states that he hopes this booklet 'will arouse public interest in some of the architectural treasures in North Hampshire and the need for their preservation.' The Vicar of Yateley states that 'such an ancient building as St. Peter's Church requires a large fabric fund.' The author of this pamphlet is Mr. B. S. Townroe, CBE. There are 13 recorded ways of spelling the name of Yateley, hence the title of the booklet.

Paint Society AGM

At the annual general meeting of the Society of British Paint Manufacturers Ltd., held at the Dorchester Hotel, W1, on November 12, it was announced that Mr. C. D. O'Sullivan had been re-appointed president, and Mr. T. S. Dally vice-president for the year. The four vacancies on the Council were filled by the election of the following: C. A. F. Hastilow (Docker Bros.); P. Leigh-Bramwell (W. and J. Leigh Ltd.); C. R. Petrie (International Paints Ltd.); W. J. Vines (Lewis Berger and Sons Ltd.). Mr. F. A. Bignell was re-appointed honorary treasurer, and Messrs. Lithgow, Nelson and Co. re-appointed auditors.

Hull Development Proposal

Brook-street, Hull, will have a Georgian look when Hull Corporation's development proposals materialise. The corporation are negotiating with owners for the purchase of property and land in this city centre street, and the aim is a Corporation-owned block of shops for lease to carry the present design of Ferensway buildings through to Thornton-Varleys.

The frontage would be set back to allow more pavement space and this would involve the demolition of the present premises of M. Bloom & Sons, Ltd., and the purchase of vacant sites. The Corporation Town Planning Committee are to send a deputation to London to discuss loan sanction in connection with the project.

New TDA Publication

A new booklet, entitled 'Plywood,' has just been issued by the Timber Development Association, from whom single copies are obtainable without charge, post free. Modern plywood, thanks largely to the use of 'weather and boil-proof' adhesives, is today finding increasing fields of use in every industry. Its manufacture and properties have been well described in a number of text-books, but there has been the need for a concise account of the types of plywood available and their appropriate uses. This booklet has been designed to provide a complete account of modern plywood for manufacturers and designers. It is well illustrated and contains numerous tables and design data.

THE TRAINING OF FOREMEN AND CLERKS OF WORKS

'Association's Chief Interest,' says President

THE chief interest of the London Association of Builders' Foremen and Clerks of Works was ensuring that these men were adequately trained, qualified and accepted as a part of management, said MR. H. PALMER, president of the Association, at their annual dinner held on November 11 at the Connaught Rooms, WC2.

'In this connection,' he went on, 'we were the first to consider, seriously, courses of study for builders' foremen, not only to meet the needs of the time, but also to prepare future foremen for the task of site management in all its aspects, both to the credit of themselves and the industry.

'My Association in its wisdom has provided a Prize Fund in order to stimulate interest and to show its faith in formal foremanship studies.' Mr. Palmer then announced the winner of the first prize in the advanced course for 1957, who was Mr. R. E. Gibson.

In concluding, he stated that it was one of the aims of the Association to have all foremen certificated.

Mr. Palmer was replying to the toast to the Association, proposed by Mr. Kirby Laing, MA, MICE, who was chairman for the evening. In his speech, MR. LAING said that the pension fund appeal was progressing and to date £1,320 had been contributed. Referring to the spirit of teamwork existing in the LABF & CW, he said: 'The fact that foremen and clerks of works are gathered together in one Association and working as a team so well is a lesson to the whole industry.'

In a light-hearted speech proposing the toast, 'The Guests,' MR. F. H. GREGORY, past-president of the Association, poked fun at employers, contractors, architects, general foremen and clerks of works. The response to this toast was made jointly by MR. A. L. HANDLEY, OBE, AMICE, District Surveyor for the City of London, and MR. J. R. EMERSON, president of the National Federation of Clerks of Works and Builders' Foremen.

TRADE NEWS

Price Stabilisation

HICKSON'S Timber Impregnation Co. (GB), Ltd., of Castleford, Yorkshire, announce that they intend to hold the present price of 'Tanalith' wood preservative for a further 12 months. 'The decision was made in an attempt to help stabilise prices despite the fact that our costs, like most other companies', are rising,' a spokesman of the company said. 'Tanalith' wood preservative is used to protect timber against dry and wet rot, termites, marine borers and other insect and fungal attack.

Quarrendon School

The balustrade wrought-iron railings and gates for Quarrendon County Secondary School, Aylesbury, Bucks, illustrated in *The Builder* of November 1, were supplied and fixed by All Saints Garage of Stamford, Lincs, and not as stated.

Trade Agreement

Thomas White and Sons, Ltd., woodworking machinery manufacturers, of Laighpark, Paisley, Scotland, and Wilson Bros. (Leeds) Ltd., have reached an agreement which from January 1, 1958, makes Whites sole selling agents for England, Scotland and Wales, of the range of woodworking machinery manufactured by Wilson Brothers.

A Swedish Acoustic Board

Martin Olsson and Sons, Ltd., sole agents in the UK and Eire for Svenska Cellulosa AB, have completed arrangements for the distribution of 'Ankarboard' acoustic boards and tiles. The following main distributors have been appointed: John Bland and Co., Ltd., Cardiff (with branches at Bridgend, Bristol, Highbridge, Port Skewett and Weston-super-Mare); Dawber Townsley and Co., Ltd., Hull (with branches at Grimsby, Gt. Yarmouth, King's Lynn, Scarborough and Barnsley); Walter S. Fry, Ltd., London; J. Holt and Son (Plymouth), Ltd., Manchester, 12; Rudders and Paynes, Ltd., Birmingham, 6; and J. and W. Wilson and Sons, Sunderland.

Double Trap Syphonic WC

Edward Johns & Co., Ltd., Armitage Sanitary Pottery, Staffordshire, announce that a new double trap syphonic WC unit—described for catalogue purposes as the 116/VC 'Unisyla'—is now in regular production. Belonging to the Armitage 'Nuastyle' range of contemporary designs which includes matching washbasins and bidet, the 'Unisyla' is of well-balanced appearance displaying smooth surfaces and simple lines.

An important feature is the barely audible 'whispering' flush. Syphonic action empties the bowl quickly and completely and the large water area (54 sq in.) minimises soiling. Two gallons of water is ample to ensure a perfect flush but 2½ and 3 gallon cisterns are also available for districts where these water capacities are demanded. The 'Unisyla' is obtainable with 'S' or 'P' or turned 'P' trap, and can also be supplied with a left or right hand vent or fitted with a brass inspection cap. The 'P' trap being 7½ in. centre to floor conforms to the British Standard measurement, and this WC unit is therefore very suitable for replacement work.

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OVERSEAS BUILDING

From Our Own Correspondents

AUSTRALIA.—Another stage has been reached in the construction of the Snowy Mountains hydro-electric and irrigation project being built in south-eastern Australia at an estimated cost of £400m. Tenders have been invited in Australia, Britain and North America for the construction of another dam and a tunnel running 10 miles through the mountain. The dam will be about 150 ft. high and 710 ft. long at the crest. It will provide storage for diverted waters from the Murrumbidgee river through the tunnel into the Eucumbene river, at the Adaminaby reservoir. Work will begin on both projects early next year. The dam is scheduled for completion the following year and the tunnel, a year later. This project, together with two other main works, will bring the total generating capacity of the scheme to date to 606,000 kW., and make about 500,000 acre feet of water available each year for irrigation. Total output for the whole Snowy project will be three million kW. . . . One of the biggest railway projects ever undertaken in Australia, the standardisation of gauges between Sydney and Melbourne, started recently. The project will take four years to complete and cost £10m. The Sydney-Melbourne project is part of the long-range plan to standardise the railway gauge throughout Australia.

BRAZIL. — The National Petroleum Council has authorised Petrobras to instal a 90,000 barrel refinery in the town of Duque de Caxias, on the borders of Guanabara Bay, in the State of Rio de Janeiro. This is the refinery which has been in discussion for some time and for which it is reported that a construction contract has been granted to the Foster-Wheeler Corporation of America. . . . The agreement regarding the loan of $10m. from the Export-Import Bank to the Cia Urbanizadora da Nova Capital, was signed recently. This is mainly for the purchase of structural steel for government buildings in the new Federal capital of Brasilia in the highlands of Goias. . . Negotiations for the establishment of the Federal railway network, the Rede Ferroviaria Federal SA, were completed a month ago and the new organisation will now incorporate the 22 Government-owned railways. An American loan of $100m. will now be available for development.

CEYLON.—An agreement was signed recently between representatives of the Department of Industries and an Indian firm of industrial consultants who are to advise on the planning, design and construction of a spinning mill which the Government intend setting up at Veyangoda, at a cost of Rs. 6 million. . . . The Minipe Extension Scheme scheduled as a Rs. 29 million project in the last Government's Six-Year Programme of Investment has now been increased to Rs. 55 million. It is intended to open up 39,000 acres of land some 25 miles east of Kandy, and the scheme includes increasing the sluice discharge of the present annicut across the Mahaweli Ganga to drive a 300 kW. turbine and the construction of two reservoirs, on one of which hydro-electric power will be generated.

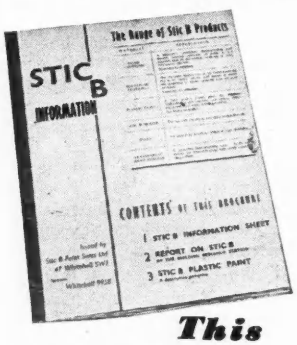
CHINESE PEOPLE'S REPUBLIC. — An electric railway, the first in China, is to be constructed across the Chining mountains, as part of the Paoki-Chengtu railway system. Construction is expected to begin next year.

HONG KONG.—The Building Authority of the Hong Kong Government have approved plans for a 34-storey skyscraper which has been under consideration for some time by the Kwong Hing Investment Co. The architect is Mr. Eric Cumine and the building, to be known as Fu Centre, will include shops, offices, a 500-room hotel, and a night club. Work is to be started as soon as possible. . . . The award of two large contracts has now been announced by the Government for the construction of resettlement flats, a $3.3m. contract for resettlement flats at Shek Kip Mei and a $3.9m. contract for resettlement flats at Wong Tai Sin; both were awarded to local Chinese construction companies. . . . The Miramar Hotel, in Kowloon, is reported to have changed hands and the new owners propose to modernise and extend the building substantially. The present capacity of about 180 rooms is to be increased to 500. . . . One of Hong Kong's large cinemas, the Queen's Theatre, is to be demolished. On the site will be built a 15-storey block which will include a new Queen's Theatre, restaurant, department store and office premises. . . . A 10-storey block is to be built at North Point, to serve as a store and administrative offices for the Government Stores Department. Construction work is expected to start early in 1958. . . . Two 19-storey buildings are to be erected during the next 18 months near the Peninsula Hotel, Kowloon. The ground and the first floors will consist largely of shops. One of the buildings is to house an hotel of 320 rooms; the other will contain 180 residential flats. The project is being developed by the Hing Cheung Land and Investment Co. . . .

Two lots of about 100,000 sq. ft. each were auctioned at a price of $2,350,000 and $2m. respectively to two Hong Kong firms. The Hong Kong Rubber Manufactory, Ltd. and the East Sun Textile Co. Ltd., are to build factory units to cost over $1m. each. The East Sun Textile Co. Ltd., will transfer its operations from To Kwa Wan, where their present building is to be demolished to give way to a multi-storey apartment block. . . . In Lantao, the largest island of the group contained by the Colony, plans for assessing the practicability of the proposed reservoir at Shek Pik are going ahead and the French firm of Enterprise de Foundations et Travaux Hydraulique Soletanche in conjunction with Messrs. Soil Mechanics Ltd., London, are to conduct a large scale grout curtain experiment at the site.

HONG KONG.—The Commissioner for Rating and Valuation, in his Departmental Report for the year ended March 31, 1957, gives a figure of $155,936,735 as the value of private building work carried out in the Colony during the year under review. This makes a total of $826,522,538 since 1950.

HONG KONG.—A French firm of engineering consultants, Enterprise de Fondations et Travaux Hydraulique Soletanche, have been engaged to conduct geological tests and soil surveys on the site of a new reservoir on Lantau Island. The reservoir, designed by Messrs. Binnie, Deacon and Gourley, London, is sited in the Shek Pik valley and will entail the construction of a large dam; $2½ million is expected to be spent on these preliminary tests, and the eventual aim is to pipe water from Lantau to Hong Kong Island by a line on the seabed. . . . The Government have called for tenders for the construction of a fire station for Kowloon, at the junction of Ma Tau Chung-road and Sung Wong Tai-road. The station will be a four-storey building. Estimated cost is $500,000, and plans are by the Architectural Office PWD. . . . The former Nine Dragons Club site on Nathan-road, Kowloon, has been sold for $3,174,000. It comprises 12,240 sq. ft. of building land restricted to residential purposes, and carries a building covenant of $2m. which must be fulfilled in two years. The site was purchased jointly by the Kiu Cheong Shun Investment Co. and Mr. Liu Po-Shan. . . . The Urban Council is to spend $1m. on a new Colonial Cemetery at Cape Collinson, on Hong Kong Island. Included in the scheme will be a crematorium. . . . During September a total of 152 new buildings, including houses, flats, shops, factories, godowns, etc., were completed at a total cost of $10,926,274. The Commissioner of Housing, Mr. G. T. Rowe, has stated that 5,000 flats in 16 blocks, varying from 12 to 16 storeys high, will be constructed at a cost of about $50m. at So Uk, Kowloon. The project will house some 30,000 people, and design is in the hands of a consortium of architects under the chairmanship of Eric Cumine, AADip, ARIBA.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HONG KONG.—A new apartment building with a ground floor shopping arcade is to be built at Caroline Hill. Estimated cost is $4,500,000 and the building will contain 500 flats. . . . A new public mortuary costing £300,000 is to be built at Hung Kom, Kowloon. Plans are by the Architectural Office, PWD. . . . A $5m. luxury tourist hotel, to designs by Donald Walters, LRIBA, is to be built for the Kwong Tack Co., on a site off Kings-road, North Point.

IRAN.—The Plan Organisation has authorised the United States Development and Resources Corporation to complete preliminary work on the Dez Dam project in anticipation of the necessary finance being secured. Work is also to be begun on four projects for which funds have now been made available: the power transmission line linking Abadan and Ahwaz, a PVC plant at Ahwaz, a gas pipeline from Agha Jari to Ahwaz, and a cane sugar mill. Work is also to be continued on the Karkhel irrigation project. Contracts for the completion of three of the four silos begun before the war have been awarded to the German firm MIAG. The fourth has been awarded to the Soviet Corporation Tekhoexport.

LEBANON.—The agreement for the repurchase by the Lebanese Government of the French-owned Beirut Port Company was signed in Beirut recently. The company has now issued a tender for the construction of a new third basin in the Port. Adjudication of these is to take place before the end of the year. . . . The contract for the new Beirut Radio Station has been awarded to the West German firm, Siemens. It is understood that construction will be completed in about 30 months. . . . It is expected that orders for equipment for the new Lebanese Television Company will be made in the near future and that construction of the station itself will begin early in 1958.

NEW ZEALAND.—Income from the tourist trade is expected to increase by an extra 5,920,000 dollars when a luxury international hotel, planned for Auckland, is built. Estimated to cost nearly £3m. the hotel is being sponsored by the newly-formed company representing Pan American Airways, Dominion Breweries, Ltd., and New Zealand Breweries, Ltd. The tentative site for the hotel is an 85½ acre site at Bastion, Auckland. Designed to cope with a major influx of tourists from the United States when jet-age travel is introduced between New Zealand and America, the hotel will have 315 bedrooms, a ballroom, complete shopping facilities, conference room.

TURKEY.—The Swiss firm of 'Aleanza Finanziaria' Sisikon, Uri, has been authorised to build six factories under the Foreign Capital Investment Law. The cost of these will attain the sum of £T24,477,703, of which 55 per cent. will be foreign participation and the balance local. These factories will produce wool tops and yarns; textiles; finishing; printing and mercerising of yarn; oil extraction from oil seeds, paper and caustic soda. . . . According to press reports a firm has been constituted under the name of TIA (Turkish, English, American Pharmaceuticals Industry) for the construction of a factory to manufacture pharmaceutical specialities. . . . Following talks held in Ankara between representatives of the Iranian Government and the Turkish Government for the building of a pipeline from Iran through Turkey to the Mediterranean an agreement in principle has been reached. It is estimated that the project will cost $500m., responsibility for the financing to be undertaken by Iran. . . . It is reported in the Press that the enlarging of the Yeslikoy and Esenboga airports to bring them up to the universal standards and the building of eight more civil airports has been decided. These latter will be constructed at Trabzon, Aydin, Gaziantep, Kars, Iskenderun, Urfa, Agri and Ordu. . . . The head of the unofficial Russian trade delegation which visited Turkey for the Izmir Fair, said that in addition to the glass factory, a protocol has been signed with the Is Bank for the construction of a caustic soda factory with an annual capacity of 70,000 tons.

CONTRACT OPEN

***Australia.**—Tenders invited for construction of Myponga Dam. Work includes the building of a concrete arch dam; a concrete ski-jump spillway with retaining walls; supply and installation of three 21 ft. x 14 ft. radial gates; construction of concrete outlet tower, access houses and outlet tower house; permanent access roads, etc. Tender should be endorsed 'Tender for Myponga Dam and Appurtenant Works' and posted to the Engineer-in-Chief, Box 641F, GPO, Adelaide, by November 28. A copy of the tender documents (including specifications and drawings) will be available for loan to UK firms in order of receipt of applications. Ref. ESB24900/57 (tel., Chancery 4411, ext. 738 or 771).

* From the Board of Trade Special Register Information Service. The telephone number and extension at the end of the paragraphs relate to the department of the Export Service Branch, Lacon House, Theobalds-road, WC1, where further information can be obtained.

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RHODESIAN DEVELOPMENT

BIG BUILDING development plans are reported from the Federation of Rhodesia and Nyasaland by Barclays Bank DCO in its November 'Overseas Review'. A 25-year plan for development of African Township areas in the greater Salisbury area has been announced, and it will cover 12,000 acres within 10 miles of the city centre.

Building plans approved in the Salisbury area during September totalled £1,027,060; this included £405,000 for commercial and £155,000 for industrial buildings. Only three other cities in Southern Africa (Johannesburg, Cape Town and Durban) exceeded Salisbury's building plans in value during the year ended June 30.

In the greater Salisbury area (which includes adjacent town management board areas) value of plans passed during that year were exceeded only by Johannesburg with £13.3 million against £12,282,386 in greater Salisbury. In Bulawayo plans passed in September totalled £250,330, in Umtali £78,050 and in Gwelo £53,585.

From Northern Rhodesia the Bank says that the building trade has remained occupied in many areas on large contracts, although in places building tenders are becoming very competitive with some contractors not fully occupied.

Work has begun on a new £75,000 hotel in Broken Hill, which is expected to be ready by July, 1958. The town has been without a hotel for two years. Negotiations are also said to be under way for the erection of a second hotel in Chingola, the initial building of which would cost about £100,000.

Building plans passed in Ndola during September totalled £577,100, and included a depot and sewage disposal works for the Municipal Council, to cost £231,000.

SCHOOL BUILDING, LAGOS

THE Secretary of State for the Colonies, Mr. Alan Lennox-Boyd, has announced the approval of a grant from Colonial Development and Welfare Funds of £584,000 to assist the expansion of educational facilities in Lagos by contributing to the capital cost of certain projects.

The Federal Ministry of Education in Nigeria has already introduced a policy of free primary education for Lagos children. This policy, which was described fully in a White Paper published at Lagos in March, 1955, includes:—(i) an extensive building of modern, well designed primary schools; (ii) the acquisition of adequate school sites both in heavily populated parts of Lagos and in new development areas; (iii) a concomitant expansion of post-primary facilities including new secondary, commercial, technical and modern schools; (iv) an expansion of teacher training facilities aiming at producing a net increase of 600 trained teachers by 1964; and (v) the repair or rebuilding of schools considered unsafe or unsuitable.

The grant of £584,000 from Colonial Development and Welfare Funds will exclude projects which were already completed by April, 1957. The grant will make a substantial contribution to the building of 28 primary schools; extensions to 24 existing primary schools; a Moslem teacher training college; four new secondary schools; one commercial school; one technical modern school; three girls' modern schools; and 13 primary schools which were considered unsafe and which have been demolished.

The SCOTTISH BUILDER

Scottish Projects to Continue

THE Forth Road Bridge and the Clyde Tunnel will not be affected by Government economy cuts, said the Secretary of State for Scotland when opening the new Bawbee Bridge at Leven on November 1. Both would be carried out as planned. The Scottish road programme would also be proceeded with.

Mr. Maclay went on to state that he meant to put in hand in the next four years schemes which would ultimately cost £40 million. This included work on the Forth Road Bridge, the second Clyde tunnel, the completion of the reconstruction of the Glasgow-Stirling road and of the Glasgow-Carlisle road, and the various schemes in the Highlands under the Crofter Counties plan.

In the next four years authorisation on road projects would run at the rate of £10 million per year, as against the average of £5 million in the three years between 1955 and 1958.

The new Bawbee Bridge is a two-span reinforced concrete structure with one span (135 ft.) crossing the river Leven and the other (64 ft.) crossing the railway.

Glasgow Water Tower

GLASGOW Corporation Water Department has put into use at Garthamlock, a new housing area, the highest and greatest capacity water tower in Great Britain. The new tower holds 1,000,000 gallons and stands at 132 ft. above ground level, with a water level of 466 ft. above sea level.

The circular elevated tower is carried on 18 reinforced concrete columns, each 4 ft. 6 in. in diameter, and mushroomed at the top. These are believed to be the highest unbraced columns in the country.

The Garthamlock works will serve the eastern area of the city and the Ruchazie, Garthamlock and Wellhouse area. It includes a new 24 in. diameter rising main, a 3,000,000-gallon reservoir, of which half has been completed, and about 31 miles of water main ranging from 4 in. to 24 in. in diameter. The new pumping station has three centrifugal pumps and provision for a fourth and the whole station has been designed for operation by one man.

Delayed Payments to Architects

ARCHITECTS were completely fed up with the delayed payments problem, MR. THOMAS S. CORDINER, FRIBA, president of the Glasgow Institute of Architects, told the Glasgow Master Wrights' and Builders' Association at their annual dinner on November 8. Builders had to remember that the architect suffered too under this situation in that he could not claim his fee until completion of the work.

The trouble seemed to lie between the surveyors and the builders, although there were many cases of prompt handling. Some surveyors did not appear to get their scroll measurements out as promptly as they should and they had the consequent delays of 18 to 25 months which was not unusual in settling jobs. They should remember that new work was often delayed until the client saw his commitments under previous jobs.

Contractors were also remiss in this matter and it was very rare to find builders and surveyors clicking at the same time. He told the builders that it was very much their own fault that they lay so long out of their money, and he made an appeal to all present to deal with final measurements in a businesslike manner and so give the architects no more cause for complaint.

Mr. Cordiner also urged a greater degree of interest in technical education for builders, and thought that a degree in building might be a sound move, giving them the same type of training as those with whom they would work, to their mutual advantage.

MR. DAVID WATSON, FRICS, president of the Glasgow Property Owners' and Factors' Association, congratulated the Master Wrights on their protest to Glasgow Corporation on granting the building of a school in the city to the Direct Labour Department. It was quite wrong to let out any contract without taking a check on price. He looked forward to the prospect of building of houses in Scotland to let, and thought that the lead given in England would be followed soon in Scotland.

MR. J. W. MACINTOSH, president of the Master Wrights' Association, referred to the problem of financing day release training. It was impossible to render an account to a client for the time spent by apprentices at day release classes, and if their lost time was to be charged to overheads it was still wrong to ask the client to pay for that training.

Royal Exchange Opening

A DISTINCTIVE DEPARTURE from tradition was made by Messrs. Gauldie, Hardie, Wright and Needham, the Dundee architects, when, instead of the traditional gold key, they decided to present a water-colour to the Hon. David Bowes Lyon, sub-governor of the Royal Exchange Assurance, and uncle of the Queen, to mark the opening by him on October 29 of the £200,000 Royal Exchange building in Dundee. The presentation was made by Professor John Needham, of the Chair of Architecture at Sheffield University, who is a partner in the firm.

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SCOTTISH BUILDING TRADE WAGES

FOLLOWING are rates of wages authorised by the Scottish National Joint Council as from May 27, 1957. They apply to the whole of Scotland, including the islands of Orkney, Shetland, etc.

Grade A: Craftsmen 4s. 6d.; Labourers 3s. 11¼d.

For apprentices, the rates are:

Year.	*Percentage of Craftsman's rate.*	*For week of 44 hours.*
		s. d.
1st	25	49 6
2nd	33⅓	66 0
3rd	50	99 0
4th	66⅔	132 0
5th	75	148 6

For female labour, the rates are:

	s. d.
Operatives on craft operations (at end of probationary period)	3 11½
Operatives on labouring operations (at end of probationary period)	3 5½

NEW BUILDINGS

Ayr.—Plans approved by Dean of Guild Court for 363 one-storey, two-apartment flats at Fenwickland-ave., Belmont South, at an estimated cost of £37,134.

Ayr.—N. S. Napier, Ltd., Woodfield House, 127, Prestwick-rd., to erect buildings for extension of their office accommodation. Cost will be £14,000.

Cumbernauld.—Laying of sewers and ancillary works at Kildrum.—1,900 yds. 6-in., 9-in. and 12-in. foul sewer; 900 yds. 6-in. to 21-in. surface water sewer. Applications to Chief A, Cumbernauld House, by November 25.

Dunbarton CC.—New secondary school at Gallowhill, Kirkintilloch. Tenders invited for several works. Applications to J. Miller, County A, Radnor Park School, Clydebank.

Fifeshire.—Plans approved by Fife Education Committee for reconstruction of Kirkcaldy Technical College at an estimated cost of £700,000. The work will carried out in three phases, starting early next year.

Glasgow.—Dean of Guild Court approved plans for 1,361 houses in the city. Corporation to build 1,053 houses at Easterhouses, remainder by SSHA at Langlands-rd. and Mallaig-rd. Corporation houses will be of three, four or five apartments in tenement buildings, and the others comprise 213 3-apt. dwellings and 95 4-apt. in seven four-storey blocks. A few will be of the cottage type.

Glasgow.—Victoria Infirmary, Langside—proposed laboratory block. Several works. Applications to I. J. Hamilton, Secretary, Board of Management for Glasgow Victoria Hospitals, 24, St. Vincent-pl., C1.

Hawick.—Tenders invited for six nurses' houses in Hawick and district, several works. Applications to County A, County Offices, Newtown St. Boswells.

Kilmarnock.—Trunk Sewers Augmentation, 1952. Several works relating to completion of contract consisting of 40 lin. yd. 54 in. and 42 in. dia. concrete pipes and 110 lin. yd. 33 in. dia. concrete pipe, terminating at the River Irvine. Applications to Burgh S, 11, London-rd., Kilmarnock.

Lanarkshire.—Plans in hand for a 14-storey county administrative centre at Hamilton at an estimated cost of £640,000. County A, D. G. Bannerman (A).

Renfrew.—Tenders invited for several works in connection with additional accommodation at Thornliebank primary school. Applications to R. Urquhart, County C, County Buildings, Paisley.

Ross and Cromarty CC.—Dingwall new academy.—Tenders are invited for the various trades in connection with the above. Applications to Messrs. J. A. O. Allan, Ross & Allan, Architects, 10, Bon-Accord-sq., Aberdeen.

The Builder FUTURE CONSTRUCTION

Full details of Public Appointments open will be found in the Advertisement pages of this and previous issues.

CONTRACTS OPEN

For some contracts still open but not included in this list see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

NOVEMBER 29.

***†Bristol City C.**—Sub-divisional police station at Broadbury-rd., Knowle. City A. Dep. £2 2s.

***†Dunstable BC.**—42 garages and store on two sites at Downside estate. BS. Dep. £2 2s.

***Ely UDC.**—22 Type C houses at High Barns. E&S. Dep. £3 3s.

***†Lincoln (Parts of Kesteven) CC.**—Old people's home at Welby-gdns., Grantham. County A, County Offices, Sleaford. Tenders by December 20.

NOVEMBER 30.

***†Isle of Ely CC.**—Firm price tenders for erection of home for aged persons, Money Bank, Wisbech. County A, County Hall, March. Dep. £2 2s. Tenders by January 8.

DECEMBER 2.

***†Bucks CC.**—(1) Erection of county sec. mod. sch., Datchet; (2) completion of College of Further Education, High Wycombe; (3) phase 1 of county sec. mod. sch., High Wycombe (North); (4) erection of county sec. mod. sch., Wing; (5) erection of county sec. mod. sch., Winslow; (6) erection of county jun. sch., Bletchley; (7) phase 1 of county sec. mod. sch., Chesham; (8) phase 1 of grammar sch. for girls, Aylesbury; (9) new sub-divisional police headquarters, Wendover; (10) new accommodation, Dorney CP sch.; (11) two classrooms, Flackwell Heath CP sch.; (12) two classrooms, Linslade county sec. mod. sch.; (13) new accommodation Haversham CP sch.; (14) additional classrooms, etc., High Wycombe, Micklefield CP sch.; (15) additions and school meals improvements, Chackmore CE sch.; (16) staffroom, Newport Pagnell county inf. sch.; (17) improved sanitary accommodation, Slough, Montem county jun. and inf. sch.; (19) improved school meals accommodation, Iver Heath cty. sch.; (20) improved school meals accommodation, Tingewick CP sch.; (21) verification room, The Old House, Aylesbury; (22) conversion of kitchen into lavatory, Slough grammar sch.; (23) additional lavatory accommodation, Prestwood CP sch.; (24) improved sanitary accommodation, Stoke Poges cty. sch.; (25) provision of wash-up, High Wycombe, Green-st. cty. sch.; (26) provision of wash-up, High Wycombe, Gordon-rd. sch.; (27) additional teaching and sanitary accommodation, Mill End cty. sec. sch., High Wycombe; (28) staffroom and cloaks, Spring Gardens CP sch., High Wycombe. County A.

***†Lincoln Diocesan Board of Education & Governors of Stamford CE Sec. Sch.**—Erection of two-form entry sec. mod. sch., Empingham-rd., Stamford. Edward Craven, ARIBA, 3, St. Mary's-pl., Stamford.

***†Twickenham BC.**—12 flats, 6 garages and access road at The Avenue, St. Margarets. BE. Dep. £3 3s.

***†Wolverhampton CB.**—Extension to Highfields sec. sch. BE. Dep. £2 2s.

DECEMBER 4.

***†Andover CC.**—Extensions and alterations to Grammar Sch. Maxwell Aylwin, FRIBA, 26, West-st., Farnham, Surrey. Dep. £2 2s.

***†Durham CC.**—Heating installation, Blaydon East modern sch.; renewal of wood floors, Consett CE (Cont.) sch.; shower baths and changing rooms, etc., Houghton-le-Spring mod. sch. County A.

DECEMBER 5.

***†Hants & Isle of Wight Police Authority.**—Police house at (1) Itchen Abbas, nr. Winchester; (2) Hammond's Green, Totton, nr. Southampton. County A. Dep. £1 1s.

DECEMBER 7.

***Northern Ireland Hospitals Authority.**—(1) Building work; (2) mechanical engineering services installation; (3) electrical engineering services installation at Gransha Hospital, Londonderry. Secretary to the Authority, 44-46, Queen-st., Belfast.

DECEMBER 9.

***Chesterfield RDC.**—House and storage accommodation at Wheeldon Mill sewage works, Brimington. E&S, Rural Council House, Saltergate, Chesterfield. Dep. £2 2s.

Middlesbrough CBC.—46 four-storey maisonettes, 75 three-storey maisonettes and flats, and 10 houses, with demolition works, sewers and reconstruction of roadways at St. Hilda's second development. Boro' E. Dep. £2 2s.

***†Reading CB.**—Caretaker's house at Ashmead Sch. Boro' A.

DECEMBER 11.

***Essex CC.**—Smallholder's house at South House Farm, Ramsey, near Harwich. County Land Agent and Valuer, 69, Duke-st., Chelmsford.

DECEMBER 12.

***Northfleet UDC.**—Extensions to Council Offices. E&S. Dep. £2 2s.

DECEMBER 13.

***Southend-on-Sea CB.**—27 bungalows at site No. 27, Mendip-cres., Westcliff-on-Sea. Boro' A, 30, Alexandra-st. Dep. £2.

DECEMBER 14.

***East Grinstead UDC.**—Fixed price contract for demolition of existing premises and erection of new shop with flat over and 2 flats adjoining at 33/35, Lingfield-rd. R. H. & R. W. Clutton, 92, High-st., East Grinstead. Dep. £2 2s.

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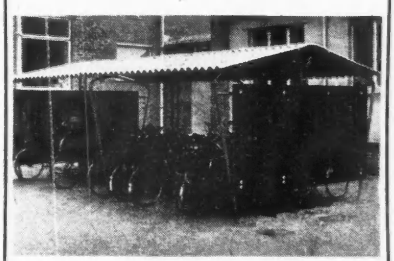

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DECEMBER 16.

***Bexhill NC.**—20 old people's flats at Hillside-rd. BE&S. Dep. £2 2s.

***Merthyr Tydfil CBC.**—Restoration work, Education Office. TC.

Tees Valley Water Bd.—Building 10 house micro-straining plant at Long Newton reservoir, five miles East of Darlington. (Fixed price contract.) E&Gen.Mgr. Dep. £5 5s.

***West Hartlepool CB.**—Erection of St. Teresa's RC primary sch. at Callander-rd. Robert Burke, LRIBA, Lambton House, Lambton-rd., Newcastle-upon-Tyne, 2. Dep. £5 5s.

DECEMBER 17.

***Ilford BC.**—Modernisation of prewar houses. BE. Dep. £2 2s.

DECEMBER 19.

***Walton and Weybridge UDC.**—Shop and flat at Locke King-rd., Brooklands housing site. E&S.

DECEMBER 24.

***North Riding EC.**—Extensions at Guisborough Grammar Sch. F. Barraclough, County Hall, Northallerton.

DECEMBER 31.

***Cardiff City C.**—Erection of Cyntwell sec. sch. for boys, Ely. City A. Dep. £2 2s.

JANUARY 6, 1958.

***Bucks Standing Joint Committee.**—Sub-divisional police station Lionel-ave., Wendover. County A.

PAINTING, MATERIALS, ETC.

NOVEMBER 28.

†West Sussex CC.—Road materials. County S.

DECEMBER 2.

***†Beds. EC.**—Electric light, etc., and engineering services to two new County Sec. Schools at Bedford and Kempston. County A.

***†West Riding CC.**—Installation of central heating at Child Welfare Clinic, Dragon-parade, Harrogate. County A, Bishopgarth, Westfield-rd., Wakefield.

DECEMBER 7.

***†Northern Ireland Hospitals Authority.**—(1) Mechanical engineering services installation and (2) electrical engineering services installation of new Ulster Hospital, Dundonald. Secretary to the Authority, 44-46, Queen-st., Belfast.

DECEMBER 9.

Huddersfield CBC.—Pipes and castings for Waterworks Dept. Waterworks E.

MUNICIPAL AND CIVIL ENGINEERING WORKS, ETC.

DECEMBER 2.

Dore and Bredwardine RDC.—3,500 lin. yd. of 4 in. dia. and 5,000 lin. yd. of 3 in. dia. spun-iron water mains at Madley. John H. Haiste & Ptnrs., Ccl's. consultant engrs., 8-10, Southgate-st., Gloucester. Dep. £3 3s.

Kidderminster RDC.—1,840 lin. yd. of 4 in. dia. asbestos-cement water mains at Cakebole, Chaddesley Corbett. E&S. Dep. £2 2s.

Leicester City C.—21,100 sq. yd. macadam footway, 21,750 lin. yd. precast concrete kerbs and edging kerbs, 28,450 sq. yd. turfing and soiling. City S. Dep. £1 1s.

Manchester City C.—12,600 sq. yd. of bitumen macadam carriageway, 1,474 lin. yd. of 9 in. to 15 in. dia. sewer, 510 lin yd. of 21 in. dia. culvert, etc., at Miles Platting (Oldham-rd.) development area. City S.

DECEMBER 4.

Luton BC.—1,512 lin. yd. of 15 in. to 27 in. concrete O.G. pipes, 765 lin. yd. 9 in. to 12 in. stoneware pipes. Boro' E. Dep. £2 2s.

DECEMBER 9.

Poole BC.—65,000 gallons capacity r.c. balancing tank at Corfe Mullen, Wimborne, Dorset. Water E.

DECEMBER 10.

St. Helens CBC.—3,620 lin. yd. of 12 in., 10 in. and 8 in. spun-iron and asbestos-cement water mains. Boro'&WE. Dep. £2 2s.

DECEMBER 12.

Worcester City C.—5,700 lin. yd. of 6 in. to 36 in. dia. sewers, 4,400 lin. yd. of 4 in. to 8 in. spun-iron water mains, 6,300 lin. yd. of kerb and channel and 21,400 sq. yd. of roadway in crushed stone, etc., at Warndon housing site. City E. Dep. £5 5s.

DECEMBER 13.

Andover RDC.—Six miles of water mains, 6 in. to 3 in. dia., in parishes of Wherwell and

Chilbolton. Howard Humphreys & Sons, constg. engrs., Victoria Station-hse., Victoria-st., SW1. Dep. £3 3s.

DECEMBER 16.

Lee Conservancy Catchment Bd.—Reconstruction with two-span bridge, 113 ft. long and 30 ft. wide of bridge carrying railway lines over River Lee between Victoria Park and Stratford Low Level stations. Rendel, Palmer & Tritton, 125, Victoria-st., SW1. Dep. £20.

Martley RDC.—1,025 lin. yd. of 9 in. to 6 in. dia. glazed stoneware pipe sewers, concrete tube manholes, ejector station, 745 lin. yd. of 4 in. dia. spun-iron rising main and sewage disposal works in parish of Astley. Willcox, Raikes & Marshall, engrs., 33, Gt. Charles-st., Birmingham, 3. Dep. £5 5s.

DECEMBER 17.

Hiraethog RDC.—1,100 yd. of 9 in. and 6 in. dia. stoneware pipe sewers, including river crossing, 4 in. rising main and sewage disposal works, etc., at Yspyty Ifan, nr. Betws-y-Coed, N. Wales. Richards & Dumbleton, Ccl's. constg. engrs., 45, Newhall-st., Birmingham, 3, and Greenways, Portmadoc, Caerns. Dep. £2.

Ilford BC.—Improvement of junction of Ley-st. and Balfour-rd. with Cranbrook-rd. and widening of Ilford station bridge. Boro' E&S. Dep. £5 5s.

DECEMBER 19.

Kidsgrove UDC.—2,250 lin. yd. of spun-concrete sewer, mainly 12 in. dia., with brick and precast concrete manholes, reconstruction of Red Bull sewage disposal works to serve 20,000 persons, with 21 tanks in r.c., brick and concrete pumping station, sludge drying beds, concrete access roads, etc., with maintenance for 12 months. Sir Herbert Humphries & McDonald, Constg. engrs., 276, Monument-rd., Edgbaston, Birmingham, 2. Dep. £10 10s.

DECEMBER 31.

***Cardiff City C.**—Off-site drainage works at Cyntwell schools. City S. Dep. £2 2s.

JANUARY 1, 1958.

Gipping RDC.—2,300 yd. of 9 in., 7 in. and 6 in. dia. stoneware and spun-iron sewers, concrete manholes, ventilating columns, etc., 1,000 yd. 8 in. dia. spun-iron pumping main, sewage pumping station and flow recorder comprising r.c. substructure and brick motor house at Bramford. Lemon & Blizard, Ccl's. constg. engrs., 59, Tufton-st., SW1. Dep. £5 5s.

NO DATE.

†**Border RDC.**—2,780 lin. yd. of 3 in. dia. spun CI water main, etc., at Crew Fell. E.

GENERAL BUILDING WORK

(LONDON)

Beckenham.—SCHOOL.—The MofE has approved the addition to the 1958-59 school building programme of the Kent CC of an instalment of Beckenham, Oak Lodge county primary school consisting of a hall and four classrooms estimated to cost £31,350.

Bermondsey.—DWELLINGS.—The Housing TP and Estates Com. recommends the acquisition of the remainder of a site bounded by Alexis-st., Macks-rd., Southwark Park-rd. and Linsey-st., partly occupied by temporary bungalows, on which it is estimated that 35 new dwellings can be erected. The Boro' E&S is H. C. Coss, MIMunE, ARICS.

Bethnal Green.—OFFICE.—The Housing and Establishment Coms. jointly recommend expenditure of £13,837 on a new area office and works depot to be built at the Squirries-st. site, Avebury estate.

Dartford.—HOME.—The Health Com. of the Kent CC recommends the building, at an estimated cost of £66,840, of a bungalow-type home for aged persons on surplus land at The Mount, Wilmington.

Deptford.—FLATS.—16 flats are proposed at 54, Wickham-rd. by Pullen Bros., 17, Broadway, Catford, SE6.

Deptford.—FLATS.—Three blocks of four two-storey flats are proposed at 40, Breakspear-rd. by Walker (Tooting), Ltd., Hackbridge-rd., Wallington, Surrey.

Hammersmith.—FLATS.—The Housing and TP Com. has approved in principle preliminary sketch plans for 21 one-bedroom flats on the site of 218 Goldhawk-rd. The Boro' E&S is J. E. Scrase, AMICE.

Lambeth.—FLATS AND MAISONETTES.—The Housing and TP Com. has approved plans prepared by Clifford Culpin & Ptnr. (F/A), AMTPI, for eight bed-sitting-room flats, three three-bedroom flats, 30 two-bedroom maisonettes, and 33 three-bedroom maisonettes; 74 dwellings in all, on a site at Somers-rd.

Lambeth.—BUILDING.—Ernest W. Banfield & Son (F), 28, Mortimer-st., W1, are the architects for a new building on the site of 134-140, Vauxhall-st., SE11.

Lewisham. — SHOPS. — Rebuilding and redevelopment of the site of 72-78, Lewisham High-st. is proposed by Boots' Pure Drug Co., Ltd. The architect is C. St. Clair Oakes, MBE, TD (F), Boots' Pure Drug Co., Ltd., Station-rd., Nottingham.

Lewisham.—FLATS.—Three blocks of 12 three-storey two-bedroom flats are proposed at 58, Longton-gr. and adjoining back land at Sydenham by Walker (Tooting), Ltd., Hackbridge-rd., Wallington, Surrey.

Paddington.—HOTEL.—A public inquiry has been held into a proposal to redevelop the sites of 75-89 Lancaster-gate, W2, by a 30-storey hotel. The architects are Raglan Squire & Ptnrs. (F), 3, Hobart-pl., SW1.

Poplar.—FLATS AND MAISONETTES. — The Housing Com. of the LCC has approved a scheme for the development of a site of 3.7 acres to the west of Manchester-rd., between Pier-st. and Seyssel-st. by eight four-storey blocks of maisonettes and two five-storey blocks of flats (128 dwellings), 14 garages, an estate workshop and 72 tenants' stores, playground, etc. The estimated cost is £391,700.

Wandsworth. — FLATS AND HOUSES. — A scheme for the redevelopment of the whole area of 4½ acres between Gay-st., Waterman-st., Felsham-rd. and Bemish-rd. by 86 four-storey flats and 13 houses. The first phase will consist of 36 flats in two- and three-storey blocks. The Boro' E&S and Architect is P. V. Marchant, MICE, MIMunE.

Wandsworth. — FLATS. — Charles Cook & Ptnrs., Ltd., 4, Chase Side, Enfield, propose the erection of a new block of flats at 182, Leigham Court-rd., Streatham, SW16.

Wandsworth.—HOUSES.—Three pairs of semi-detached houses are proposed at the rear of the 'Horse and Groom' PH, Streatham High-rd., SW16, for Rokesby Investments, Ltd., 114, Station-rd., Sidcup, Kent.

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(PROVINCIAL)

Billingham-on-Tees.—P. R. Middleton & Ptnr. (A/A), 17, Albert-rd., Middlesbrough, appointed A for maternity and child welfare centre, school clinic and library, for Durham CC.

Blackburn.—Walsh Bros. (Blackburn), Ltd., propose erection of new motor car showrooms with offices over on site of 16, Limbrick.

Blyth.—NCB to modernise 200 miners' houses. £59,000 est.

Bury.—EC seeks Ministry approval to final plans for new grammar/technical sch. at Radcliffe-rd. A: Bradshaw, Gass & Hope (F/F), 19, Silverwell-st., Bolton.

Carlisle.—A. S. Nixon, Ltd., builders, Lowther-st., to erect 18 houses at Grinsdale-ave. Plans approved.

Chester.—Governors of King's Sch. propose erection of new buildings on Wrexham-rd. site. —TC proposes new branch library at Lache.

Crewe.—Crewe Service Station, Ltd., propose erection of new premises in the town centre. A: F. Tomkinson & Son (A), 180, Eddleston-rd., Crewe.

Darlington.—TC recommended to approve improvement scheme at Salters-la. £25,330 est. Boro' S: G. S. Short.

Dudley.—BC approved revised layout for 31 dwellings off Highview-rd., Kates Hill; approved erection of 8 blocks of 12 two-bedroomed flats at Wrens Nest-rd.; seeks Ministry approval for revised plans of proposed Old Park Farm CP sch. and aged persons' hostels at Dudley Wood-rd.

Haltwhistle.—RDC to erect 40 houses for men working on Spadeadam rocket engine testing site. S: P. H. Campbell.

Hebburn.—R. Burke (L), 10, Lambton-rd., Jesmond, Newcastle-on-Tyne, is A for RC grammar school at Mill-la. for 600 scholars.

Hetton.—UDC to apply for sanction to borrow £39,836 for 30 houses at Easington-la. E&S: P. W. Richardson, MIMunE, Hetton-le-Hole.

Heywood.—TC to prepare preliminary plans for new Civic Hall at York-st.

Hindley.—UDC approved plans for additional classrooms at Argyle-st. sec. mod. sch. for Lancs CC and for 6 police houses at Davis-st., Platt Bridge, for Lancs CC.

Houghton-le-Spring.—UDC to proceed with modernisation scheme for pre-war council houses to cost over £25,000. S: A. Veitch, The Broadway, Houghton-le-Spring.

Huddersfield.—YMCA propose reconstruction of their premises at John William-st., £85,000 est.

Leek.—UDC approved erection of 40 houses at Haregate estate, £61,000 est.

Llanrwst.—TC approved erection of new prim. sch. at Wellington-pl. in 1958 programme for Denbighshire CC, £47,000 est.

Manchester.—TC proposes multi-storey and underground car park for 600 cars at Portland-st. and Chorlton-st. and office block with basement car park at Princess-st. and Mosley-st., Manchester 2.—To negotiate tender with Vic Hallam, Ltd., Nottingham, for 3 "Derwent" type classrooms at Birchfield, Rusholme. —Approved plans for new office block at 53, Fountain-st., for Unicos Property Corpn. Ltd. A: Cruikshank & Seward (F), 196, Deansgate, Manchester.—EC proposes erection of prim. sch. at rear of Eastern Bypass and High Legh-rd., Openshaw.—Reynolds & Scott (F), Albert-sq., Manchester, are A for erection of temporary classroom block at The Hollies Convent sch., Oak-dr., Fallowfield.—P. Cummings (F), Jacey-hse., Oxford-st., Manchester, is A for part two-storey, part single-storey factory at south-east corner of Caernarvon-st. and Pimblett-st., Cheetham, for S. S. Taylor.

Matlock.—UDC approved plans for 12 one-bedroomed bungalows adjoining Park-la., Two Dales.

Newcastle-on-Tyne.—R. W. Bell & Co., Ltd., Mistletoe-rd., Jesmond, to erect seven houses at Red Hall-dr. and Meridian-way to plans by C. Solomon (F), St. Mary's-pl., Newcastle.—Plans by P .H. Knighton, MBE, (A), architect to Newcastle Hospital Bd., Benfield-rd., Newcastle, for urological department at Newcastle General Hospital have been approved.—Carr & Kirk, builders, Stocksfield-ave., Newcastle, to erect 12 houses at Benwell Hill-rd. to plans by Dryden & Shaw (A), 6, Market-st., Newcastle.—City C received loan sanction for

£266,513 for flats, roads and sewers at Walker and £50,998 for 35 flats at Fairways estate.—Northumberland and Durham Brewers' Assn. are in touch with City C regarding three sites at Longbenton for public-houses.

Newton Aycliffe.—Durham County Assn. of Boys' Clubs is to build club at Newton Aycliffe. £10,000 est. D. Gibson, Durham, organising secretary.

Oldham.—Park Cake Bakeries, Ltd., propose extensions to their premises, £100,000 est.

Ramsbottom.—Lancs CC to erect child welfare centre and clinic at Carr-st. in 1957/8 programme, £11,784 est.

Rotherham.—BC received Ministry approval for proposed Old Hall county sec. sch., £150,967 est.

Salop.—CC proposes following in 1958/9 programme:—Meole Brace infants' sch.; Harlescott Grange infants' and jun.; Church Stretton mod.; extensions at Newport grammar; Wellington tech. college.

Sheffield.—TC approved plans for 20 blocks of 6-storey maisonettes at Herdings Unit and 18 blocks at Hemsworth Unit.—To lease site at Matilda-st. and Eyre-la. to Slack & Barlow (Sheffield), Ltd., for new cutlery factory.

Shildon.—UDC to erect 20 bungalows for old people at Association-st. Plans by S.

Skelmersdale.—Lancs CC to consider erection of new branch library.

Smethwick.—EC approved erection of new county sec. sch. at Pound-rd., Oldbury, for Worcs CC.

South Shields.—Newcastle-on-Tyne Hospital Bd., Benfield-rd., Newcastle, authorised preparation of scheme for new outpatients' and casualty depts. at South Shields general hospital. Br.'s Ch. A: P. H. Knighton, MBE (A).—A. C. Ashton & Co., Ltd., boilermakers, Coronation-st., South Shields, to erect engineering workshop, and Nembo, Ltd., of Coronation-st., also propose new workshop. Both have prepared own plans.—Plans by T. A. Page, Son & Hill (F/F), 75, King-st., South Shields, for new RC sec. sch. and caretaker's house at Harton-la. have been approved.—Page, Son & Hill are A for licensed premises at corner of Gainsborough-ave. and Reynolds-ave. for Northumberland Hotels, Ltd.—Durham Divisional Coal Bd. to sink new shaft and erect ancillary buildings at Westoe Colliery, South Shields.—F. M. Owsnett, Lloyds Bank-chbrs., Fawcett-st., Sunderland, appointed constg. engr. for heating work at proposed Highfield-rd. infants' sch. A: Page, Son & Hill (F/F), 75, King-st., South Shields.

Staveley.—UDC to acquire 3¼-acre site on East Crescent estate for housing purposes.

Stockport.—Managers of St. Joseph's RC sch. propose adaptation of existing girls' and infants' sch. as infants' sch.—BC proposes erection of new offices for Waterworks Dept. on St. Peter's Vicarage site; seeks loan £205,921 for 2 eight-storey blocks of flats at York-st., Edgeley.

Stretford.—TC approved plans for extension to factory, offices and canteen at Ayres-rd., Old Trafford, for Reed Corrugated Cases, Ltd. A: T. A. Fitton & Son (A), 4, Chapel-walks, Manchester.

Wallsend.—Associated Lead Manufacturers, Ltd., Crescent-hse., Newcastle-on-Tyne, plan erection of research laboratory at Stephenson-st., Wallsend, and negotiated contract expected. Firm's own A.—Commercial Plastics, Ltd., Stephenson-st., propose factory extensions. A: H. Gatoff (A), 51, Grainger-st., Newcastle-on-Tyne.—MH&LG has approved contracts placed with J. H. James, Archer-st., Wallsend, for 10 shops and 14 flats at Low Willington Farm estate, and with F. P. Dodsworth, Hill Heads-rd., Whitley Bay, for branch library at Wallsend East End.

Warrington.—BC to prepare plans for dwellings adjacent to Festival-ave. and Hughescres., also on site fronting Derek-ave., Orford estate.—RC Authorities propose erection of new church at southern end of Dingleway, Appleton.

Welwyn.—North-West Regional Hospital Bd. to build new hospital on 25 acre site at Howlands-rd., between Welwyn Garden City and Hatfield, to serve both towns, £1½ million est. Bd's. A: C. D. Andrews, Sheffield-st.-hse., Kingsway, WC2.

Wigan.—BC to make available 21-acre site to west of Warrington-rd. for industrial development by smaller industrial concerns.—Lancs EC approved revised estimate of £451,710 for extensions to District Mining and Technical College.

TENDERS

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.
¶ Denotes *accepted by H.M. Government Departments*.

Andover.—12 bungalows, Vigo-rd. Boro' S: R. S. Offord. *N. G. Piper, Ltd., 12, Marchant-rd., Andover, £13,329.

Arbroath.—TC approved the following tenders for the 64 houses at Montrose-rd. fifth development:—*Brick work*, *W. Furye, Arbroath, £33,105; *joiner work*, *J. & W. R. Sievwright, Arbroath, £22,560; *plumber work*, *Pelling and Cronshaw, Arbroath, £8,501; *slater work*, *James Cuthill & Sons, Arbroath, £4,683; *plaster work*, *Baxter Bros., Montrose, £5,820; *electric work*, *D. Adam & Co., Arbroath, £3,797; *glazier work*, *W. Cameron & Sons, Dundee, £384; *painter work*, *W. G. Grant & Son, Arbroath, £2,313. Total: £81,165.

Billinge and Winstanley.—24 two-storey dwellings at School Brow site for UDC. *G. & J. Seddon, Ltd., Little Hulton, nr. Bolton, £29,541.

Birkenhead.—Eight staff houses at Handbridge in connection with River Dee scheme for BC. *J. Roddy, Chester, £17,446.

Blackpool.—Ice cream distribution depot at Mowbray-dr. for T. Wall & Sons (Ice Cream), Ltd., Godley, Hyde, Ches. *Norwest Construction Co., Ltd., Litherland, Liverpool.

Boston.—32 bungalows at junction of Church-rd. and Freiston-d. for TC. ‡Frederick Budge, Ltd., £31,792.

Burnley.—Second contract of new grammar sch. for boys. Boro' E&S. QS: Eric Walmsley & Co., Padiham. *Caton & Duckworth, Ltd., William Henry-st., Blackburn.

Bury.—Extensions at Stand grammar sch. for Lancs CC. *E. Taylor & Co. (Manchester), Ltd., Ebor Sawmills, Littleborough, Lancs, £40,986.

Daventry.—10 houses at Barnes Close for TC. *Adkins & Shaw, Ltd., St. James-st., Daventry.

Durham.—New mod. sch. at Sherburn for CC. County A: G. R. Clayton (F), South-st., Durham. QS: Turner & Townsend, 71, Linthorpe-rd., Middlesbrough. *H. F. Mole & Co., Ltd., Chester-le-Street, £121,252.

Felling.—Two blocks of three-storey flats at Leam-la. estate for UDC. S: R. Morton. *John Clark & Son, Ltd., Gregson-terr., New Seaham, Co. Durham.

Fulham.—Extension of development at Clem Attlee Court, Lillie-rd. (South) area, by substituting an 11-storey block of 83 flats for eight-storey block originally proposed and building of two more 11-storey blocks each of 88 flats, with branch lending library in one block, including roads and sewers. Boro' A and Director of Housing: J. Pritchard Lovell (L). ‡Tersons, Ltd., £535,451 (extension of contract).

Harrogate.—New science building at Ashville College for Board of Governors. *W. G. Birch (Harrogate), Ltd., Montpellier-hse., Harrogate.

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¶**London (Air Ministry).**—New works contracts to value of £500 or over for week ended November 15:—

Civil engineering: Scampton, Lincs., Hadsphaltic Construction Co., Ltd., Ibex House, Minories, EC3. *Resurfacing work*: Hurn, Hampshire, Universal Highways, Ltd., Stanwell Lodge, Town-la., Staines, Middx.: Dalcross, Inverness, The Limmer-Trinidad Lake Asphalt Co., Ltd., 40, Woodside-pl., Glasgow, C3. *Painting work*: Digby, Lincs., C. J. Else & Co., Ltd., 467, High-st., Lincoln; Middle Wallop, Hants. and Stafford (2 contracts), Ian Williams & Co., Ltd., Wroughton-pl., Ely, Cardiff; Bircham Newton, Norfolk, M. & F. O. Foster & Co., Ltd., York-rd., Hitchin, Herts.; Marham, Norfolk, North Luffenham, Rutland, and Manby, Strubby, Lincs. (3 contracts), Donald Humberstone & Co., Ltd., North Somercoates, Louth, Lincs.; Langtoft, Northants., Brampton Park, Hunts., Coningsby, Woodhall Spa, and Boston, Lincs. (3 contracts), J. D. Tighe & Co., High-st., Kirton Lindsey, Gainsborough, Lincs.; Wattisham, Suffolk, J. & B. Abbott (Contractors), Ltd., Sherbourne-hse., 23-25, Northolt-rd., Harrow, Middx.; Bardney, Marton Hall, and Winthorpe, Notts., B. P. Decorators (Lincoln), Ltd., Danes Court Yard, Danesgate, Lincoln; Horsham St. Faith, Norfolk, W. J. Davy & Sons, Ltd., Selby-pl., Gt. Yarmouth, Norfolk. *Artificers' work*: Harpur Hill, Derby, R. Green & Sons (Chapel-en-le-Frith), Ltd., 117, Market-st., Chapel-en-le-Frith, via Stockport, Ches.; Holne on Spalding Moor, Yorks., J. Allison & Sons, Ltd., Manor-bldgs., Pocklington, Yorks.; Fauld, Staffs., H. E. Swain, Ltd., 20, Lichfield-st., Walsall, Staffs.; Collaton Cross, Devon, Willcocks & Stephens, Ltd., Lower Polsham-rd., Paignton, Devon, *Heating and ventilating*: Thorney Island, Hants., Smeaton & Sons, Ltd., 40/43, Chancery-la., WC2.

London (British Railways).—Contracts placed by Eastern Region:—Wm. Proctor & Sons, Ltd., 54, Denby-st., Sheffield, 2, provision of additional roof lighting and ventilation to carriage building and trimming shops at Doncaster works.—W. & C. French, Ltd., Buckhurst Hill, Essex, construction of new steel sheet pile quay wall and ancillary works at Town Quay, Harwich.—Lorne, Stewart (Heating), Ltd., Exhibition Grounds, Wembley, Middx., reconstruction of engine shed, ancillary buildings and sand drier at South Lynn motive power depot.—A. Cameron, Ltd., Hamilton-hse., 839/841, London-rd., North Cheam, Sutton, Surrey, cleaning and painting of ironwork and steelwork to bridges Nos. 7, 8, 9, 10, 12 and 13, between Liverpool-st. and Bethnal Green.

London CC.—Construction at Derby Hill site, Lewisham, of 48 flats in two six-storey blocks and 18 houses, with 10 garages, two playgrounds and workshop:—

William Willett, Ltd.	£219,135
Tersons, Ltd.	£217,823
M. J. Gleeson (Contractors), Ltd.	£213,325
The Unit Construction Co., Ltd.	£212,826
Rush & Tompkins, Ltd.	£212,410
Wates, Ltd.	£211,747
Rowley Bros., Ltd.	£210,101
W. J. Simms, Sons & Cooke, Ltd.	£209,245
A. T. Rowley (London), Ltd. ..	£208,982
Thomas & Edge, Ltd.	£207,604
*Gee, Walker & Slater, Ltd., Westminster	£204,603

Architect's comparable estimate is £208,917.

London CC.—Day special school for delicate children at Elmcourt-rd., SE27. Tenders on basis A allow for fluctuations in rates of wages and costs of materials: on basis B, in rates of wages only:

	Basis	£
M. J. Gleeson (Contractors), Ltd.	A	62,956
Howard & Co.	A	60,900
Thomas & Edge, Ltd.	A	57,959
J. & R. Rooff, Ltd.	A	55,420
	B	55,970
C. Miskin & Sons, Ltd.	A	54,669
Tersons, Ltd.	A	52,752
William Willett, Ltd. ..	A	50,847
	B	51,340
*Oliver R. Croudace, Ltd., Caterham, Surrey	A	50,182
	B	51,112

Architect's comparable estimate on basis A is £57,129.

¶**London (Metropolitan Police).**—Tenders for building works:—External painting, West Ham, Orwell-rd., Fisher & Stringer (Builders), Ltd., £561; conversion of M.Q's., City-rd. P.S., W. T. Ricketts & Sons, £777; int. and ext. redecs., Wimbledon P.S., Baileys, Ltd., £1,185.

¶**London (MoW).**—Contracts placed for week ended November 9:—

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Buckinghamshire: Post Office Training School, Bletchley Park, Block G, internal decorations, J. J. Hamilton & Sons, Ltd., 4, Perrin-st., Headington, Oxford; Post Office Training School, Bletchley Park, internal decorations of Block D, ground floor, Howley Decorations, Ltd., 140, Midland-rd., Luton, Beds. *Cumberland*: Brampton, erection of 6 houses, G. Wimpey & Co., Ltd., Hammersmith-gr., W6. *Lancashire*: Stationery Office Building, Heyhouses-la., Lytham-St. Annes, repairs to roofs and gutters, Permanite, Ltd., Stanley-st., Salford 3, Lancs. *London*: 3, Central-bldgs., SW1, renewal of lift shaft and motor room, M. J. Gleeson (Contractors), Ltd., Haredon-hse., London-rd., North Cheam, Surrey; Holborn Telephone Exchange, 268, High Holborn, WC1, internal decorations, South London Decorators, Ltd., 9, Streatham High-rd., SW16; Bayswater Telephone Exchange, Moscow-rd., W2, internal decorations, J. W. Green (Painters), Ltd., 171, Graham-rd., Wimbledon, SW19; Post Office Savings Bank, Blythe-rd., Kensington, W14, reorganisation of luncheon club, C. J. Jefferies, Ltd., 1, Shaftesbury Mews, Stratford-rd., Kensington, W8: Euston Telephone Exchange, and Branch Post Office, 165/167, Euston-rd., NW1, internal decorations. Sykes & Son, Ltd., 8, Essex-st., Strand, WC2. *Sussex*: Temporary Sorting Office, Ifield-rd., Crawley, Phase 1, demolition and re-erection, R. Cook & Son (Crawley), Ltd., 20, Springfield-rd., Crawley.

¶**London (War Dept.).**—Works contracts placed for week-ended November 8:—*Hampshire*: Electrical, Liberty Electrical Co., Ltd., Wimbledon. *Kent*: Building, Stroud & Roberts, Ltd., Whitstable. *Lancashire*: Miscellaneous, Joe Johnson (Contractors), Ltd., Lancaster. *Shropshire*: Shedding, J. Mee, Ltd., Bucknall. *Surrey*: Building, G. T. Crouch, Ltd., Leatherhead; roofing, G. T. Crouch, Ltd., Leatherhead; redecorating, Geo. Jones & Son (Contractors), Ltd., London. *Warwickshire*: Miscellaneous, T. Oliver (Builder), Ltd., Worcester. *Wigtownshire*: Civil engineering, James Miller & Ptnrs., Ltd., Edinburgh.

Manchester.—New Geology and Mathematics building at University. *J. Gerrard & Sons, Ltd., Swinton, nr. Manchester.

Newcastle-on-Tyne.—New dental dept. and alterations to X-ray dept. at Newcastle Gen. Hospital, for Newcastle Hospital Bd., Benfield-rd., Newcastle. Ch. A: P. H. Knighton, MBE (A). *Shield Bros., Swalwell, Co. Durham, £12,349.

Salford.—740 multi-storey flats at Lower Kersal for City C. Direct Works Superintendent: S. W. Johnson, MIMunBM. *Direct labour £1¼m.

Sheffield.—Installation of 13 electric passenger and lifts and three electric goods lifts in multi-storey flats in first portion of Park Hill re-development scheme for Corporation. *Express Lift Co., Ltd., £47,868.

Swansea.—Additional office block and extensions to works for Unit Superheater & Pipe Co., Ltd. A: Henry A. Ellis & Son (F/L), Mardy-chmbrs., 6, Wind-st., Swansea. QS: B. W. Ellis, FRICS, 90, Mansel-st., Swansea. *Bennett Bros. (Contractors), Ltd., Heathfield Works, Carlton-terr., Swansea.

Washington, Co. Durham.—87 houses at Coach Road estate for UDC. S: T. E. Crowe. *John Twiname, Ltd., Brigham, Cumberland, £113,182.

Washington, Co. Durham.—36 flats and seven garages at Coach Road estate for UDC. S: T. E. Crowe. *J. & T. Robson (Builders), Ltd., Washington (in lieu of tender withdrawn).

West Bromwich.—12 houses at Witton-la. for TC. *Direct labour.

York.—Family group home at Burton Stone-la. for City C. City A: E. Firth (F), AMTPI. *D. Hughes, 39, Danebury-dr., Acomb, York, £5,245.

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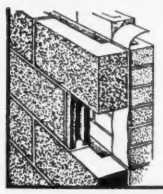

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